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BUILDING TRADES' NUMBER.

THE architects controlling Architecture do not permit "write-ups." Realizing that the advertisers can impart much valuable information to the profession, they devote the reading matter of this issue to the advertisers' interests—the large photographic plates appearing as usual.

THE NEW YORK TELEPHONE SERVICE.

PROBABLY no feature of the life of New York has been developed more rapidly and more effectively during the past few years than the telephone service. Ten years ago there were barely ten thousand telephones in use in old New York City. To-day there are in service in Manhattan and the Bronx over eighty-two thousand telephone stations, and the number is being added to at the rate of over two thousand stations a month. This remarkable development, which far exceeds that of any other city in the world—in fact, there are actually more telephones in service in Manhattan alone than there are in various European countries—is attributable to several causes. The principal impetus to the wide use of the telephone in New York was, no doubt, given by the adoption of what is known as the message rate scale of charges, under which each subscriber pays for service according to the amount of service he takes. Under the flat rate system of charges which still obtains in many places, but was abandoned in New York several years ago, a telephone user formerly paid $150 a year, or $240 for a metallic circuit. Today he can obtain anywhere in Manhattan a vastly improved service for as low a figure as $4 a month at his residence, and from $5 a month at his place of business. The service has been completely reorganized during the past three years by the reconstruction of the system on what is known as the "common battery" method of operation. This system, in which one central battery at the Exchange supplies all the current required both for talking and for signalling, does away with the individual batteries and hand magneto-generators at the subscribers' stations. The subscriber's station equipment is thus made more compact and less troublesome to keep in order, and is easier to operate, as the simple act of lifting the telephone receiver off the hook automatically signals the call, and the replacement of the receiver sets a signal for disconnection. A very marked improvement in the accuracy and speed of the service results from this automatic system, which has done much to increase the popularity of the service with the public.

Both business and social affairs are conducted at such high pressure in New York that constant recourse is had to the telephone service by people of all classes, and those establishments which cater more particularly to people who lead very active lives and make the most of their time for both business and recreation—which is the typical New York way of living—must necessarily provide their patrons with the most up-to-date telephone facilities. The means of doing this is provided by the New York Telephone Company in the Private Branch Exchange System, a method of supplying telephone service to large establishments which has become very popular in New York. The branch exchange system was originally designed for the telephone service of large business houses, and is extensively used by them, but it is also admirably adapted to hotels and apartment houses, where it makes the service available to every apartment or room and every working department of the establishment.

A branch exchange equipment consists of a switchboard on the premises connected by trunk lines to the nearest Central Office of the Telephone Company, and by extension lines to stations placed in the various rooms, apartments and offices to be served. The operator at the branch switchboard makes all the connections required on demand. In a hotel or apartment house the interior service given by the system is highly valuable, as it saves much time and labor in the conduct of the hotel service proper. Patrons of first-class hotels and apartment houses are getting to demand a telephone station in their own apartments, and hotel managers are quick to recognize the demand, as no new apartment house or hotel goes up nowadays without being fully equipped with branch exchange telephone service. About one hundred and fifty hotels and apartment houses in New York now have branch telephone exchanges. One hotel nearing completion has a system of 360 stations, and in one week of last month the New York Telephone Company made contracts with four of the leading hotels for branch exchanges aggregating over a thousand stations.

FILING ARCHITECTURAL PLATES.

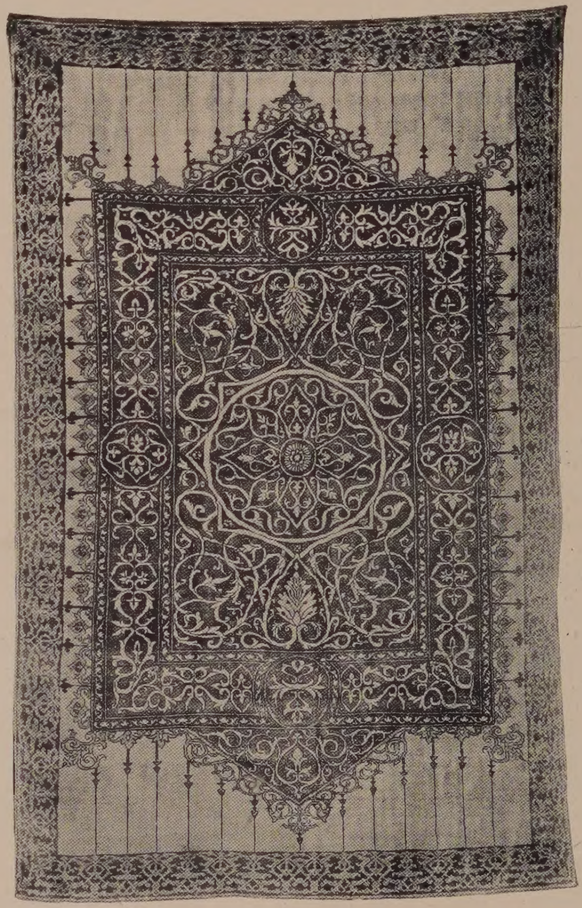
HOW to file Architectural Plates has been a query with many architects. How to file them compactly, yet conveniently and safely. The latter essential has been particularly desired by owners of collections representing years of careful selection and classification.

The Art Metal Construction Co., of Jamestown, N. Y., have solved this problem in the production of their new Steel Cabinets for Architectural Plates. Illustrations or photographs are filed vertically (i. e., on edge) between numbered or titled folders, any classification desired being indicated by guide cards. The system is convenient, simple and space-saving. One steel drawer will accommodate the contents of eight or ten small wooden drawers, and when the volume handled is considered, the new method has the merit of decided economy. Samples of these drawers may be seen in the branch offices of the company found in all the large cities, or their details studied in an attractive brochure, "Steel Vertical Files," which will be sent on application.

THE NEW PERIOD OF PERSIAN RUGS.—MASTER WEAVERS OF THE PERSIAN RENAISSANCE.

IT IS a most noteworthy fact that through many hundred years the Persian art of weaving rugs has held unrivaled supremacy in the whole world. The social conditions and the natural surroundings, and the artistic temperament resulting from these, have all contributed to the development of an art that has learned to rival the charms of nature on a ground of wool with fadeless dyes, and set up a standard that has remained the undisputed possession of the master weavers of Persia.

Equally noteworthy has been the phenomenal growth of the demand in the United States, during the past decade, for the finest products of the Persian looms, to such an extent as to bring about a real revolution in the trade of Oriental rugs in this country. But a few years back the only Oriental rugs that served the purposes of artistic decoration were the antique pieces collected throughout the Orient, principally from the world-famed rug provinces of Persia. The fine texture and exquisite color schemes of these rugs caused them to be eagerly taken up by lovers of art as successive invoices were imported from the markets of the Orient. Rare and choice as were these masterpieces from the looms of the early days, it was evident that not only would the uncertain supply soon be exhausted but, at its best, an antique piece was more like an individual piece of ornament than an artistic floor covering to fit into a harmonious scheme of decoration ; so that the selection of rugs for a house from a lot of antiques partook largely of the character of chance, and very soon the supply became altogether inadequate, especially as most of the grades were originally made in narrow and long sizes.



Silk Rug woven on the looms of Costikyan Bros. & Co., at Tabriz, Persia.
Design from an ancient Arabic book-cover.

It is out of this situation that, with a complete revolution of the old methods of chance collections, a stupendous trade has been built up, meeting the increased demand for all sizes of the finest Persian rugs, and withal equaling in texture and design and color combinations the very choicest of the antique rugs, and surpassing them in the perfect harmony with the highest standards of decoration which obtain in the West to-day.

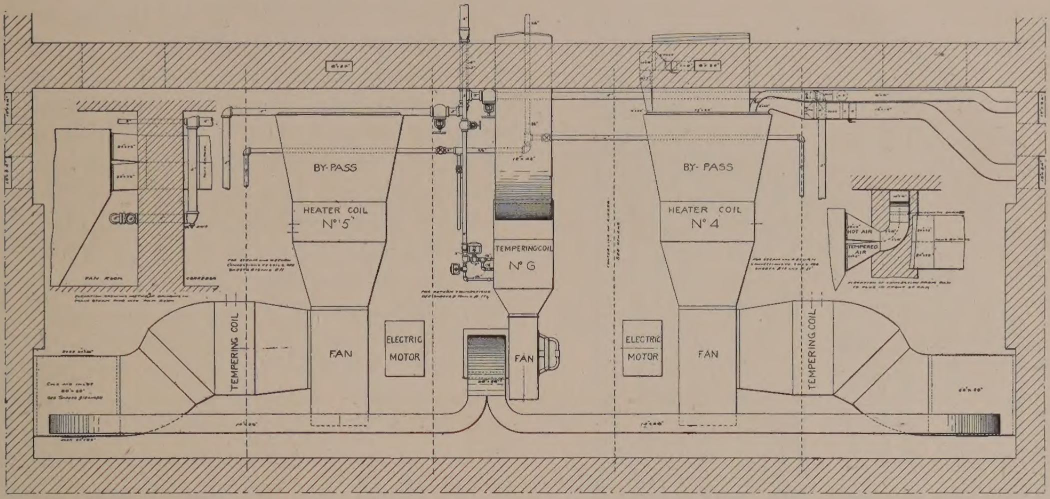
Occupying a unique position in the effort to bring about the New Period or Renaissance of the Oriental Rug has been the house of Costikyan Bros. & Co., whose headquarters are in Tabriz, Persia, and Constantinople, and in New York at 147 Fifth Avenue. Early in the field and with a thorough knowledge of the Orient as well as the artistic development going on in the United States, Costikyan Bros. & Co. bent their energies through the last decade to bring about an effective revival of the ancient art of Persia in the essential rug provinces where the supreme art, ever unconventionalized, still survived. They had the faith that what the great Persian artist weavers of the past had done, their descendants, still in possession of the secrets of the matchless vegetable dyes, and fully as inspired with ambition, could to-day accomplish under favorable conditions.

The surprising magnificence and purity of design and coloring in the immense stock at the American headquarters of Costikyan Bros. & Co. prove that this faith and expectation have been more than realized. At their looms in Tabriz and Meshed, Persia, over fifteen hundred weavers are now at work for the firm's American trade. Here at the headquarters in New York are to be seen at one time more than a thousand carpets of the finest grades giving full scope for selection to suit any plan of architecture or decoration from the boldest to the most delicate color effects. Rugs of the largest and the most unusual sizes in the finest of texture are also available. In addition, Costikyan Bros. & Co. submit designs to make special pieces after the styles of the rarest antiques and in entire harmony with the decoration to be used. Numbers of rugs of unusual size and remarkable for artistic beauty and workmanship, now adorning palatial residences in all parts of the United States, have passed through the hands of Costikyan Bros. & Co.

THE WARMING AND VENTILATING PLANT FOR THE NEW PALACE OF THE CROWN PRINCE, TOKIO, JAPAN.

THE warming and ventilating of large buildings is receiving greater attention from architects and owners to-day, than ever before, and our engineers are alert in introducing schemes that will be positively efficient and economical, and yet conform to the structural conditions.

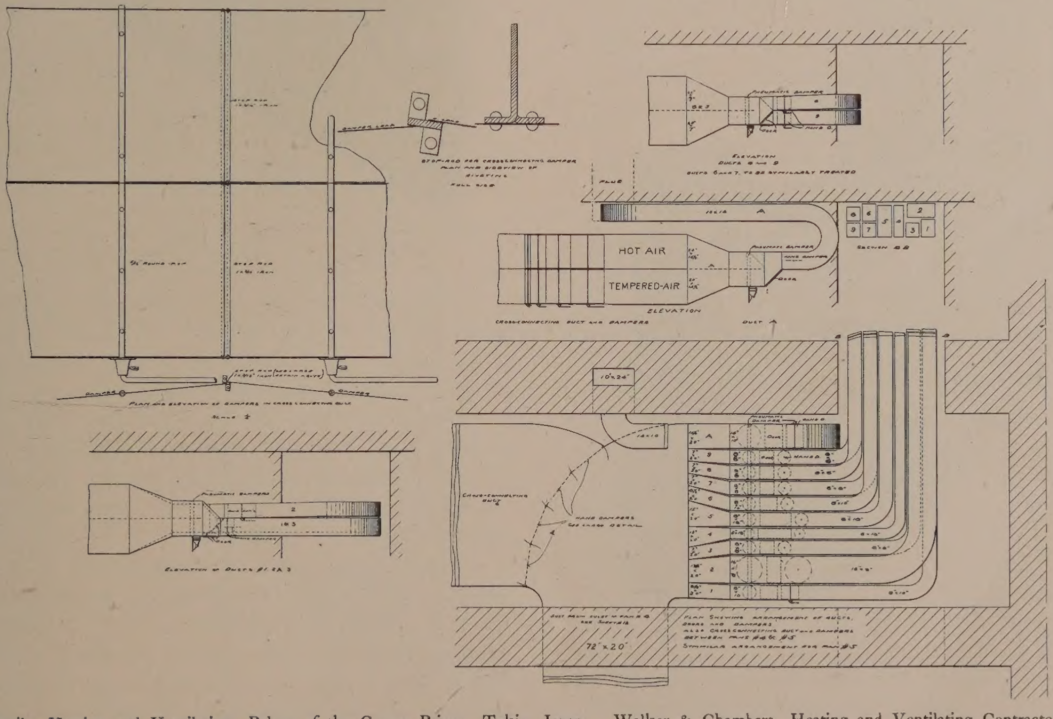
The design made by Walker & Chambers of New York, for the plant they are erecting in the new palace at Tokio, Japan, for the Crown Prince, includes some features that are certainly very ingenious. The suites for the Imperial family, great banquet and ball rooms, picture galleries, reception and smoking rooms, corridors, etc., are provided with warm and tempered air for heat and ventilation, by electrically driven fans with heating and tempering coils placed in basement on each side of the building. The cuts show the south side only, there being a similar apparatus on the north side. Sheet No. 12 shows the arrangement of fans, tempering coils, heater coils, cold air supply from outside and the warm and tempered air supply from fans to distrib-



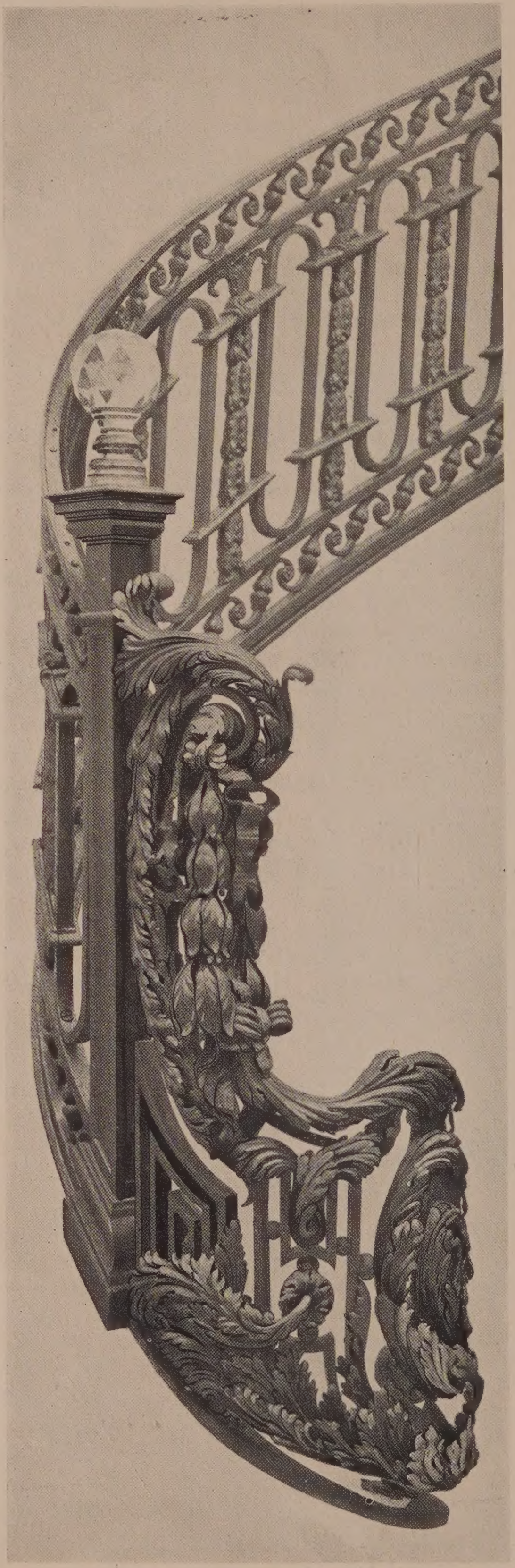
Details, Heating and Ventilating, Palace of the Crown Prince, Tokio, Japan. Walker & Chambers, Heating and Ventilating Contractors.
SOUTH FAN ROOM, SHEET NO. 12.

uting ducts, which extend through basement corridors to the vertical flues in walls leading to all rooms. Sheet No. 13 shows, in detail, the connections from fans to ducts, and the arrangement consists of having a single special duct directly from the fan to each register, as indicated by ducts Nos. 1 to 9, there being two connections from fan to each duct; one for warm air, the other for tempered air supply, both provided with dampers automatically controlled by thermostats located in the rooms. The warm air supply continues until the desired temperature is reached, when the warm damper automatically closes, and the tempered air damper opens, thus providing a continuous supply of fresh air for ventilating purposes, and, at the same time, maintaining an even temperature in the rooms. There is a cross connection between fans shown in sheet No. 13, provided with dampers, so that if one fan apparatus should break down the other may be used, although the fans each supply different parts of the building. Some of the ducts are very long, but provision has been made for loss by friction, transit, etc., in arranging the sizes and providing an excellent covering of non-conducting material.

Messrs. Walker & Chambers have shipped all material for this plant, and expect to complete the work next year.



Details, Heating and Ventilating, Palace of the Crown Prince, Tokio, Japan. Walker & Chambers, Heating and Ventilating Contractors.
SOUTH FAN ROOM, SHEET NO. 13.



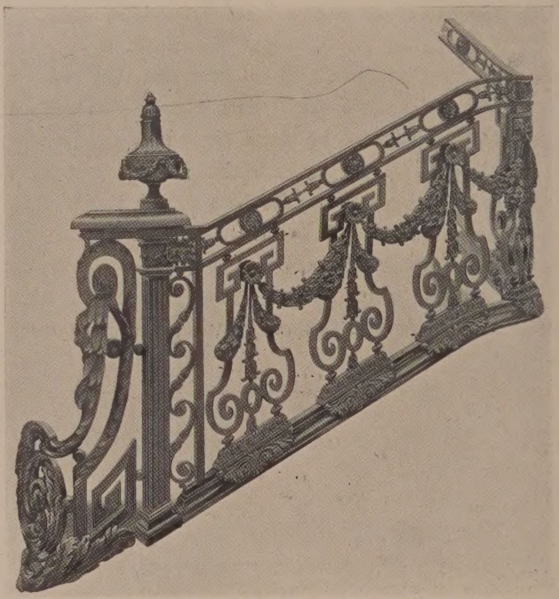
Wrought Iron Stair Rail for a New York House. Welch, Smith & Provot, Architects. Executed by the Wm. H. Jackson Company.

ARTISANS IN ALL METALS.

BRASS, bronze and wrought-iron for exterior and interior decoration are probably used more today than ever before, and in houses of prominence you will find ornamental grilles, doors, railings and marquises, and in new bank buildings counter screens, wickets, etc., all made of metal, making durable and interesting features which grow richer with age.

Over seventy years ago, Wm. H. Jackson Company started by making metal work for fireplaces, and have kept adding and increasing until at the present time they turn out the most artistic and elaborate specimens of metal work, thus deserving the title of Artisans in all metals. They employ the best modelers, chasers and finishers, and give their work the feeling and expression intended by the designer. Special attention is given to construction, in order that the work when finished will be strong and substantial. The work is set up in their shops before sending out, thus avoiding mistakes, confusion and delay in erecting at the building.

This firm will furnish the architect or decorator estimates from scale drawings, and if required, will make and submit full-size working drawings.



Bronze Stair Rail, Residence H. M. Flagler, Palm Beach, Fla. Carrere & Hastings, Architects. Executed by Wm. H. Jackson Company.

The splendid entrance gates shown on page VII, also the section of stair-rail, were executed and erected in the residence of Mr. Henry M. Flagler, Palm Beach, Florida, according to designs of Messrs. Carrere & Hastings, architects.

The large bronze tablet in the Cullum Memorial Building at West Point, which was unveiled in the presence of President Roosevelt, is one of the recent works of this company, and the original conception of the artist has been carried out by their skilled workmen.

Following is a partial list of buildings for which they have executed fine metal work: Residences for W. C. Whitney, Chas. T. Yerkes, J. D. Spreckels, C. P. Huntington, J. P. Morgan, Jacob H. Schiff, Andrew Carnegie, C. Vanderbilt, Ogden Goelet, Mrs. R. H. Townsend, Louis Stern, W. N. Cromwell, H. M. Flagler, Gen. F. R. Halsey, Hon. B. B. Odell, Com. E. T. Gerry.

The Union Trust Co., National City Bank, Germania Bank, Colonial Trust Co., N. Y. Savings Bank, Albany Savings Bank, N. Y. Life Ins. Co., Pittsburgh Bank for Savings, Franklin Savings Bank, Howard Savings Institution, Metropolitan Life Ins. Co., National Butchers' and Drovers' Bank, Waldorf-Astoria Hotel, Hotel Raleigh, Fifth Avenue Trust Co., Ætna Life Ins. Co., Cullum Memorial Hall.

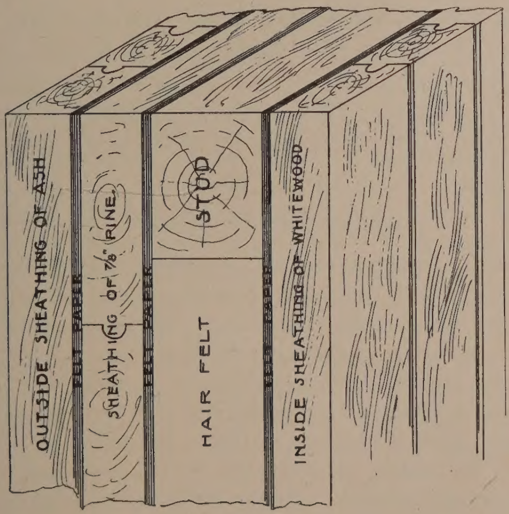
The Jackson Company make a specialty also of Mantels, Andirons, Fireplaces and Tiling for walls and floors, and show a large variety of different designs in their spacious warerooms.

The company's warerooms are situated on the north side of Union Square (No. 29 East 17th Street), New York City, and they have a large factory at 28th and 29th Streets, near Second Avenue.

SCIENTIFIC REFRIGERATION.

THE Lorillard Refrigerator has now been before the public twenty-five years, having been established by Mr. Jacob Lorillard in 1877. During this time many thousands of these refrigerators have been manufactured, all of which are giving complete and entire satisfaction. The great and increasing demand for the Lorillard and the many testimonials to its merits, confirm the fact that it cannot be excelled for food-preserving qualities. All the good points claimed by the manufacturers can be verified by practical demonstration :

First—Economy in first cost. Second—A lower degree of temperature is obtained, and will be maintained, than by any other make of refrigerator—comparing the number of pounds of ice consumed with the cubic measurement of the provision chamber. Third—At no time will there be any odor or dampness, providing ordinary care be observed, as the ice and its waste never come in contact with anything but galvanized iron, and gases and condensation pass off through the drain. Fourth—More storage capacity for food, etc., than exists in any other make of the same outside dimensions. Fifth—Economy in ice, the daily waste in the larger sizes being fully fifty per cent. less than any other make producing as low a degree of temperature. Sixth—No trouble to cleanse; the ice-tank being simply lifted out of the refrigerator, and the shelving, etc., removed, thus leaving it completely empty for cleansing purposes. No long drain pipe to become clogged up and flood refrigerator. Seventh—Workmanship. We spare no expense in order to give the very best work possible.



Section showing how the wall of a Lorillard Refrigerator is built.

Our refrigerators are all finished in natural wood. Next to this outside sheathing of wood is placed water-proof paper, passing all seams and joints; then a sheathing of 7/8-inch pine, tongued and grooved, and running in the opposite direction from the outside sheathing; then water-proof paper; then the space formed by the framing is filled in solidly with boiler hair felting; then water-proof paper; and finally, the inside sheathing of clear, seasoned white wood, on which, if desired, may be placed the lining of opal plate glass.

The principle of circulation in the Lorillard is very simple. The air coming in contact with the ice in the tank, becomes chilled and heavy, thereby falling over the ice and through the galvanized iron flue to the bottom of the refrigerator (the flue being open at the bottom), causing the warmer atmosphere at the bottom of the refrigerator to rise to the top. From thence the air is drawn through the ventilating holes at the top of the tank and passes over the ice again, producing an automatic rotary circulation from the bottom of the food compartment to the top of the food compartment, thence through the ventilating holes into and through the tanks and flues (over the ice) to the bottom of food compartment again, and in this manner sending the whole atmosphere within the refrigerator over the ice every few minutes. Thus all impurities, odors and moisture are absorbed by the meltage of the ice and pass off through the drain.

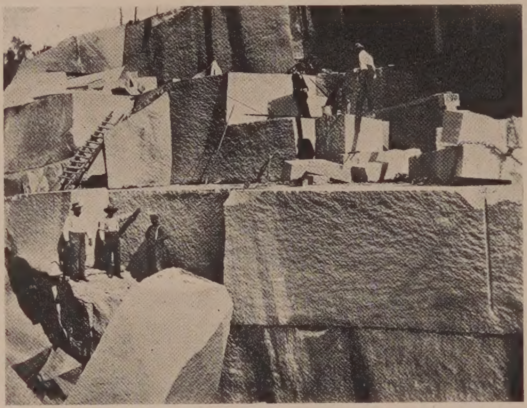
The housekeeper now demands that every department of the household should conform to modern sanitary laws. To meet this demand, they are now building Cold Rooms and Refrigerators lined with heavy opal glass. All the joints and corners are covered with aluminum moulding (which is non-corrosive), set in water-proof cement; the bottom is covered with white vitrified tiles, also set in water-proof cement, thus making a refrigerator that is absolutely non-absorbent and germ-proof, and can be kept as sweet and clean as a china dish.

The great advantage that this method has over the old one of lining with tiles is obvious. It presents a clean, unbroken surface, which is not possible with tiles, as the corner of each tile must be fastened with a screw and washer, thus offering a lodgment for disease germs. Another serious objection to the use of tiles is that the screws in a short time will become loose and the tiles fall out of place. This is not possible with glass.

The Combination Refrigerator is specially adapted for large country houses, small clubs or hotels. It is practically several refrigerators combined in one, and all cooled from one ice supply. The large compartment on the left is specially for large meats and packages in bulk, and is fitted with an ample supply of shelves and meat hooks. The right end is divided by a partition into two separate compartments—one for butter, milk and delicate articles; one for cooked food and sundries, and the row of galvanized iron drawers for fruits, jellies, etc. For family use, where drawers are not desired, a compartment can be substituted.

Many of the large hotels, clubs and institutions have been supplied with Lorillard Refrigerators, of which we mention a few: Fifth Avenue Hotel, Hoffman House, Waldorf, Marie Antoinette. Hotel Kensington, New York; The Arlington, Washington, D. C.; Saranac Inn, Saranac, N. Y.; Hotel Brighton, Atlantic City, N. J.; Hygeia Hotel, Old Point Comfort; Union Club, Iroquois Club, Manhattan Club, Reform Club, New York; St. Francis Hospital, Hebrew Orphan Asylum, Roosevelt Hospital, New York.

The main office and showroom of the Lorillard Refrigerator Company is now situated at 23 West 34th St., New York, the company having lately occupied these new and commodious quarters.

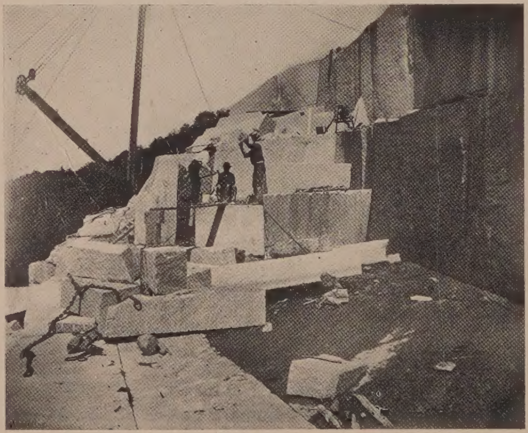


Quarry, Woodbury Granite Company.

WOODBURY GRANITE COMPANY, HARDWICK, VT.

THIS company was established in 1888 for the purpose of quarrying granite. Owing to the increased demand for cutting, the firm of Bickford, More & Co. was organized in 1896 and the necessary machinery for a complete cutting plant was installed, the management of the Woodbury Granite Company and Bickford, More & Co. being the same. In March of this year the two companies were consolidated under the name of Woodbury Granite Co. This company to-day has a cash capital of Two Hundred Thousand Dollars and a surplus of Seventy-five Thousand Dollars.

Their quarry is admitted to be the most remarkable granite formation in the country. It is a solid mountain of granite but is distinctively unique in the fact that the stone lies in level sheets from five to thirty feet thick. The quality is a clear blue grey and is notably free from iron or any imperfection and there is an absolute absence of pits or sand spots, developed by the weather, which is so common in other granite.



Quarry, Woodbury Granite Company.

During the last three years the plant has been doubled successively each year and it is, to-day, the most complete cutting and quarrying establishment in the United States. The amount of rough granite quarried and shipped last year was over 200,000 cubic feet and this year's output will far exceed that amount.

The company now makes a specialty of the largest class of work, especially the quarrying and cutting of granite in large sizes. The derricks have a capacity of seventy-five tons and the cutting plant includes a McDonald Stone Surfacer (one of eleven in the country), lathes of the greatest sizes, saws, tools of every description, etc., etc. Connected with the works is a fully equipped job shop for repairs of all kinds and for the manufacture of all their own tools. The Woodbury Granite Company is running a force of three hundred and fifty men at the works, besides having a great amount of work under way in other granite centres.

In 1896 the Hardwick and Woodbury Railroad was built at an expenditure of over One Hundred Thousand Dollars and is controlled and managed by the company. Their special cars for transfer of stone of unusual width are the only ones of the kind in America.

Much of the granite work in New York City has been executed by this firm, chiefly the polished granite in the new R. H. Macy Building in Herald Square. Of the Western work probably the largest order is for the immense station in Chicago for the Lake Shore & Michigan Southern and the Chicago, Rock Island & Pacific Railroads. The shipment of this order will use over 400 cars.

Part of Cutting Plant, Woodbury Granite Company.

The New York Office, 7 East 42nd Street, is in charge of Mr. H. L. Brown, one of the most practical granite men in the country.

HITCHINGS & CO., NEW YORK.

THE modern greenhouse has arrived within the last half century. Built on scientific principles, ribbed with iron and equipped with hot water or steam, it has been brought to its present perfection in America. Royal nurseries and hot-houses have been attached to castles and palaces for many years, but the diffusion of American wealth, our love of flowers, our universal American habit of endowing the family life with every possible luxury, has supplied the impetus for which the hereditary fortunes of Europe did not suffice. Every year the great foreign nurseries send their salesmen to this country—these establishments are so highly specialized that each grows but a single species of plant—but their men, who travel the length and breadth of the United States, and who are both intelligent and experienced, openly acknowledge that there is nothing in Europe to compare with our greenhouses.

The increasing demand for flowers and foliage plants of a higher grade than have been produced in the past, creates the necessity for a corresponding change and improvement in the construction and durability of the glass structures devoted to their production.

It is not many years since that the first consideration in the building of such structures was the cost; and the durability, lightness and adaptability to the purpose in view were secondary matters. The average greenhouse was constructed with heavy wooden rafters and purlins, and with sash bars only eight or ten inches apart, thus greatly obstructing the direct rays of the sun, which are so vitally necessary to the perfect development of plants and bloom in general. But improvements have been made from time to time, until to-day we are using iron rafters one-half by three inches, with steel angle purlins, and narrow wooden glazing bars, spaced for glass sixteen inches wide, thus allowing an almost unobstructed passage of the sun's rays; posts, columns, gutters and sills are also of iron, thus adding greatly to the durability and strength of the structure.

Houses of this construction are of great strength and durability, as the most destructible features of the ordinary wooden house are replaced with iron. They are of simple construction and easily erected, the iron frame being complete and fitted ready to be bolted together, before leaving our factory. The ridge, wood glazing bars, ventilating sash and sides are easily attached to the iron frame after erection, and can be readily replaced in future years without disturbing the structure.

Estimates of cost, sketches and information furnished. In writing for estimates state the probable dimensions of the structure or structures to be erected, the location of same, and general grade of the land, also the purposes for which they are intended, whether for Conservatory, Palm, Rose or General Greenhouse, and whether for Commercial or Private use. If Graperies, state whether for early or late crops.

On receipt of above information, the Hitchings Co. will be pleased to furnish estimates of cost for the structure complete, ready for planting, or for the Structural Iron Work, Heating and Ventilating Apparatus, shipped ready for erection, with plans, details and full instructions to enable the local mechanics to erect same.

LORD & BURNHAM CO., IRVINGTON, N. Y.

THE secret of the success of the Lord & Burnham greenhouses lies in the practical taste for horticulture of their builders and the close study of plant life which led them to originate their improvements. The secret of building a good greenhouse lies in knowing how to make plants comfortable. A barren vinery and a flowerless rosehouse are failures from every consideration, no matter how ornate the structure. To conserve every ray of winter sunlight, to locate the winter garden where, sheltered from wind and warmed by hoarded light, each plant shall thrive, to discriminate between the varying requirements of tropical palmhouses and general purpose conservatories, is the foundation of the entire art of greenhouse architecture. Light supplies plant life; heat, plant growth. In their scientific study of every horticultural problem, from that of judicious location to the final completion of the plant home in every detail, the Lord & Burnham Company are still the pioneers of their craft. They were the first to introduce long lines of ventilators, thus to a great extent doing away with the draughts so injurious to plants; the first to increase the light by using small sash bars, with supporting frames; the first to use elliptical or Gothic curves instead of circular in roof construction. The arm, rod and worm gear ventilating machinery now in universal use was invented by Mr. Lord in 1856. Lord & Burnham were the first to use ground glass in conservatories, and the first to substitute cast iron gutters and sills for wood in wooden frame greenhouses, and they introduced iron frame supports for beds and tables even before they originated the present method of iron framing.

The first iron frame superstructure was, however, erected for the late Jay Gould, in 1881, at Irvington.

The Lord & Burnham Company received the award for heating apparatus at the Columbus Exposition, and five other highest awards for conservatories, rosehouses, greenhouses, iron-framed plant tables and beds, and ventilating machinery. The success of the florist-gardener or amateur depends largely upon the satisfactory working of the heating apparatus, for without proper conditions of temperature, however skillful the plantsman may be, failure is certain. Moreover, human nature is fallible, and diurnal contests with the furnace shaker never yet provoked man to love and good works.

Horticulture is not only one of the strongest artistic passions, but is also one of the most refined and elegant of pleasures. The dual nature of the Lord & Burnham Company, architects and manufacturers, has resulted in a highly specialized business organization. Mr. W. Addison Burnham is the president of the company; Mr. Warren B. Craw, the treasurer; Mr. Henry F. Lord has charge of the manufacturing department, and Mr. Andrew Elder is the superintendent of erection. Their New York office is in the St. James Building.

The company designs, manufactures and builds complete greenhouse structures of every description, and also furnishes materials and plans which may be utilized by local builders. When a finished structure is ordered the workmen leave the house ready for planting.

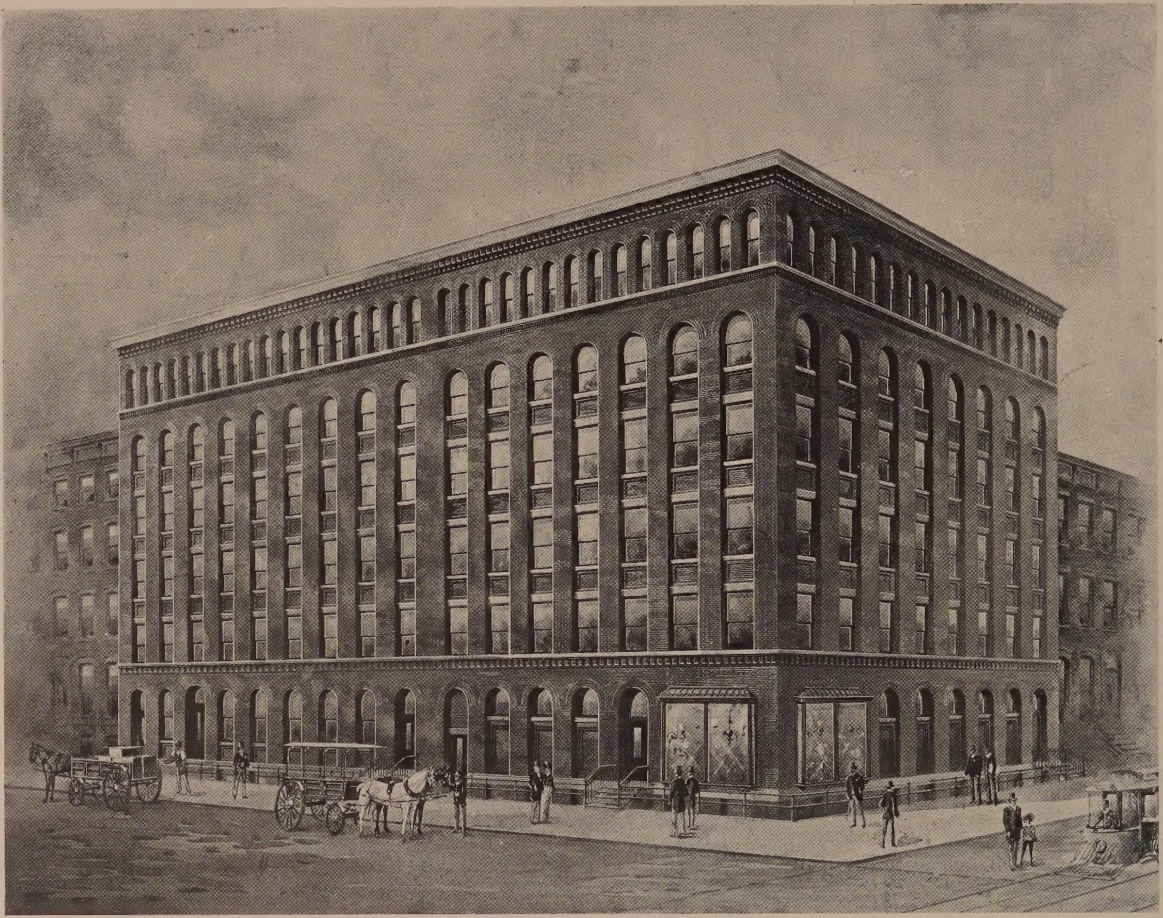
INDEPENDENT LIGHTING PLANTS.

A COMPLETE electric lighting plant, such as is installed by the U. S. Battery Co., 552–558 State street, Brooklyn, N. Y., for country and suburban houses, the essential features of which are safety, simplicity and economy, has long been a desideratum—and it becomes an absolute necessity when it can also be shown that light may be obtained from such an outfit at much less than the cost of gas, or even kerosene oil.

This company is putting in independent lighting plants all over the country, prices ranging from $550.00 upward; a $550.00 plant being capable of supplying current for ten 16 c. p. lights for 4 hours at a cost of 7 cents. Commercial current for these lights would cost, at 15 cents per K. W., 35 cents; gas at $1.00 per M, 16 cents; and kerosene oil at lowest estimate, 12 cents.

The great flexibility of these plants is at once apparent when it is known that this $550.00 plant is capable of supplying current (on special occasions) for 22 lights for 8 hours—at a cost of but 12 cents. One of the larger plants, costing $1,325.00, will furnish current for 40 lights for 5 hours at a cost of 30 cents, and will have a capacity of 65 lights at a cost of 50 cents.

The services of an engineer are unnecessary, the man-of-all-work being capable of giving the little daily attention required.



The New Factory of the Oxley Enos Company, Manufacturers of High-class Lighting Fixtures, Seventh Avenue and Sixteenth Street, New York. Clinton & Russell, Architects.

THE PECK BROS. & COMPANY.

THE Peck Bros. & Company, with factories and general offices at New Haven, Conn., and branch houses in the cities of New York and Boston, is one of the oldest and largest concerns in the world manufacturing Plumbers' Supplies and Sanitary Specialties. From a small beginning, this concern, by attention to detail and the high-grade quality of its productions, has grown to large proportions and enjoys the proud distinction of operating the largest factory in the world for the manufacture of Plumbers' Supplies and Brass Sanitary Plumbing Specialties.

This plant is a model of its kind and being equipped with the most modern machinery is enabled to turn out, at a reduced cost, goods of the finest quality.

Throughout this country, in Europe, South Africa, and Australia their goods are recognized to be the best, which is evidenced by the constant demands from customers of long standing.

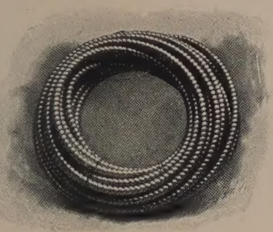
At this present time special attention is being given to complete bath room fittings for buildings of all kinds, from the largest hotel and hospital to the seaside cottage. Architects and sanitary engineers, realizing the importance of quality and effect in the choice of plumbing fixtures, have recognized the fact that specifying goods manufactured by The Peck Bros. & Company eliminates all doubt and insures the high regard of their clientage.

Though time and space forbid any extensive references, your attention is called to a few of the principal buildings of recent date, equipped with The Peck Bros. & Company's goods, such as the Ansonia apartment hotel on upper Broadway, the largest apartment hotel in the world, containing upward of three thousand rooms; the Maternity Hospital, given to the city by J. P. Morgan, and the Dorilton, one of the most elegant and modern apartment houses. A few of the representative buildings in Boston, such as the Merchants' Building, the Delta Building, Boston Athletic Association, and the Technology Chambers; also the Bay Point House, of Portland, Maine, a magnificent hotel erected by H. Ricker's Sons, of Poland Spring fame; the Mount Pleasant Hotel in the White Mountains, and the City Hospital of Boston, covering two to three acres, and many other notable public and private buildings of this country in which The Peck Bros. & Company's goods are conspicuous.

As a progressive concern they are continually placing on the market new designs and inventions, suggested by the constant changes in modern building construction and the demand for originality, especially in bath-room fixtures. By reference to another column in this issue of Architecture you will see in their advertisement one of the latest designs in porcelain lavatory outfits, which is conceded to be a marked advance in this class of goods.

Their show-rooms in New York, New Haven and Boston are elaborately fitted up for the Public as well as the Architect and Plumber, with an elegant display of modern plumbing appliances of every description. They extend a cordial invitation to visit these show-rooms, where a corps of efficient and courteous salesmen are ready to explain and demonstrate the various fixtures on exhibition.

FLEXIBLE METALLIC CONDUIT.



THE modern building, either private or public, must be wired for electric light, power and ventilation, and the choice of a conduit system that will be both safe and simple to install is too important to be overlooked by the architect or contractor.

The manufacture of interior conduit began with the unarmored tube for carrying twin conductors, and has kept pace with the growth of electric lighting until it now has reached a high degree of perfection.

From the mechanical, electrical and commercial view points, the Flexible Metallic Conduit, manufactured by the Sprague Electric Company, under the Greenfield patents, is far superior to all other forms of unlined metal pipe now on the market. It represents the highest development of unlined conduit, and reduces the art of installation to absolute simplicity. No elbows are required, as its great flexibility enables the workman to bend it around corners and over beams with ease. The amount of energy required to bend Flexible Metallic Conduit is no more than is required to bend a new piece of Manilla rope of the same size. The design of the conduit is such that while affording the greatest ease in bending to a curve formation, it absolutely prevents the possibility of flattening; the interior is thus of uniform diameter and symmetrical proportions at whatever angle the conduit may be bent.

The Flexible Metallic Conduit is composed of convex and concave metal strips wound spirally upon each other in such a manner as to provide thorough ventilation, and also to afford complete protection from mechanical and other injuries. The spiral convolutions forming the outer surface serve to hold the conduit firmly in couplings, outlet boxes, etc., thus eliminating the necessity for thread cutting and other bench work, at present such a costly feature of rigid conduit installation, and avoiding delay due to the fact that rigid conduit must invariably be brought to the bench, often from remote parts of the building.

Flexible Metallic Conduit is manufactured in lengths varying from 50 to 250 feet, according to size. The workman can cut off the exact length required for each section, thereby realizing further economy in thread cutting and wastage of conduit.

The outer surface of the Flexible Metallic Conduit being corrugated, plaster, or other surfacing material, will rigidly key to it without causing unsightly "plaster cracks" so frequently observed where rigid pipe has been covered by a comparatively thin layer or "skim coat."

The special tools required for working the Flexible Metallic Conduit are few, simple and inexpensive. A full description of various types of conduit and appliances manufactured by the Sprague Electric Company will be found in Catalogue No. 05404.

MAGNESIALITH.

THREE new fireproof materials have recently been placed on the market by the Keasbey & Mattison Co., through their Eastern Selling Agent, Robert A. Keasbey, 83 Warren Street, New York. Both products are backed by a guarantee of merit given by these manufacturers of standard high-class magnesia and asbestos goods already known and appreciated by the trade and profession.

Magnesia Building Lumber (Magnesialith) is composed of the natural fibre of Magnesia Silicate. This novel article of manufacture is made by first felting these fibres carefully and systematically by means of suitable machinery and then cementing the fibres together by means of an artificially made Magnesia Silicate, which, forming a homogeneous structure, thus unites to create a new article of commerce, suitable for the most extensive employment as a permanent fire-stop in the erection of buildings, partitions, roofs, etc., and as a preferred backing in the bulkheads of vessels.

These Building Boards are made up in various thicknesses ranging from ⅛″ to ½″ thick. The size is uniform, being 48″ long by 42″ wide. Roofing Shingles, fireproof and indestructible, furnished in sizes 14″ x 16″, and 15″ x 15″.

Magnesia Building Lumber commends itself in many ways other than as a fire-resisting factor. Under severe tests it has been shown to be absolutely impervious to heat and moisture and can be readily disinfected. As a wall and partition lining or for surface walls in hospitals, warehouses, jails and asylums, where sanitary qualities are primarily desirable, it fills this requirement, at the same time reducing the ordinary weight and cost.

In introducing Magnesia Flawless Floors (Magnesialith) it is especially noted that this flooring may be laid over wood, stone, iron or concrete. The adhesion is perfect. It never gets slippery under constant use. This material is an improved composition, the result of a large number of experiments and practical experience in the manufacture of an absolutely fireproof floor covering, and yet one that has the necessary wearing qualities, lightness, and warmth of wood and other flooring materials usually employed. When properly laid it does not crack, is warm and springy to the tread, is perfectly fireproof, and of excellent non-heat-conducting and insulating qualities, to which its sound-deadening properties are due. Side walls may be carried to any desired height or a wainscot similar to the floor treatment.

Experience has taught us that loose material now extensively used in filling in between beams and walls of cold storage plants is a failure, as the weight of same will settle no matter how carefully packed.

Lith Wall Blocks made in thickness from ½″ to 2″ inclusive can be carefully built, in which is an absolute insulator. We feel confident that a plant properly equipped with Lith on walls, and the several rooms protected with the Magnesia Lumber, will give a better protection, not only in case of fire, but less trouble to keep an even temperature. Lith is a composition of rock fibre and a small percentage of non-absorbent materials which are free from sulphur and other agents detrimental to metal surfaces. In the process of manufacture the fibres are interwoven in such a manner as to produce the greatest number of air cells possible, and the percentage of confined (or dead) air contained in one square inch of our material is as 10 to 1 when compared with any plastic or ground materials.

Further particulars in regard to the above may be obtained from Robert A. Keasbey, 83 Warren Street, New York. Circular matter, now in printing, will be mailed to architects.

FIREPROOF METAL WINDOW FRAMES AND SASHES.

THE art of fireproof building construction has been perfected and cheapened until no one would think of constructing a building in the fire limits of the larger cities of any other than fireproof material such as brick, stone, steel, terra cotta, concrete and expanded metal, &c. But strange to say, until the present, wooden window frames and sashes glazed with ordinary window or plate glass have been used with the result that fires in adjoining buildings have entered through the windows and found sufficient fuel in the combustible finish, furnishings and paper to create enough smoke to suffocate the inmates, and cause other loss and damage.

Various attempts have been made during the last few years to construct window frames and sashes of metal glazed with wire glass, but the windows produced were very crude and imperfect and only fit for use in the roughest class of buildings, until the Smith-Warren Company of 93 Federal Street, Boston, and 253 Broadway, New York City, through its president, H. Collier Smith began a special study of the fireproof window question, by investigating fireproof building construction as practiced to-day, consulting leading architects and engineers and then constructing numerous models, samples, &c., and devices for their manufacture, with the result that after spending many thousands of dollars and devoting several years' time exclusively to the development of fireproof windows, they now offer to the building public a complete line of automatic closing fireproof metal windows that are adapted to be used in any part of any kind of building from warehouse to mansion.

Recognizing the fact that no matter how fireproof a window may be, it is useless unless *closed in time of fire*, they have been careful to provide means for the automatic closing (by a mild degree of heat) of all their sashes, whether sliding, horizontally pivoted, vertically pivoted, or hinged at side, top or bottom, thus making sure that the windows will be closed when they should be.

Fortunately this automatic closing feature does not complicate the construction of any of their windows and adds nothing to their cost.

No wood or combustible material of any kind is used in these windows and there are no visible joints or connections of any kind. The frames and sashes can be moulded to any design and the sashes work as easily and noiselessly as the best wood windows, and are glazed with either transparent or translucent wire glass or polished plate glass.

The connections between the sashes and frames are more weather-tight than in wood windows, as metal does not swell and shrink as wood does, but in addition there is a telescopic piece contained in and extending the full length of the sides of each sash that is forced out against the running face of the frame when the sashes are closed, which together with an interlocking connection between the meeting rails makes the windows absolutely weather-tight.

The windows are made in nine large factories located in different parts of the country and the company is prepared to execute orders of any size upon short notice.

Address all communications to Smith-Warren Company, 253 Broadway, New York City, who will take pleasure in sending catalogue and full information, or call with models upon request.

ELEKTRON MANUFACTURING CO.

THE forging to the front of the Electric Elevator has been more marked than any other development in the building line. Among leading Architects, Engineers and Builders, electricity seems now to be firmly established as the best, most reliable and economical power for this service.

The Elektron Manufacturing Company was early in the elevator field and have developed and brought to a high point of operating efficiency various types of automatically controlled elevators for private residences, as well as standard types of passenger and freight elevators for office, mercantile and apartment buildings.

In the line of automatic control, they have gone more deeply than most other concerns, in placing on the market book-lifts and dumb-waiters, operated from the various landings by push-button systems.

During the process of perfecting this complete line of hoisting machinery, the Elektron force has always had in mind that felicitous wish for its apparatus, "a long life and a happy one." They are confident that this has been assured by careful and substantial construction on the one hand and a perfection and simplicity in the design of controller systems on the other, that eliminates interruptions to service.

The systematic pursuit of this ambition has been made possible through the fact that from General Manager down to Department Foremen, the same men are now in charge of the engineering and manufacturing of this machinery that were with the business when it started some fifteen years ago; and that it has been attained so far as is possible can be attested by reference to all of the users of Elektron machinery instead of by reference to a selected few, who have been so fortunate as to have "show plants."

Attention is particularly called to a custom of The Elektron Co. shown in its elevator proposals, which no other similar concern has adopted, that of submitting a detailed specification of its winding machines in conjunction with the general specification for the complete elevator plant. Such important points as the dimensions of the drum shafts and bearings, pedestals, gearing, worms and worm shafts, thrust bearings, brake mechanisms and motor parts are given in detail, as well as the sizes of bolts, screws, etc., used in assembling them. The purpose of this detailed specification is to invite comparison with apparatus of other makes, in proof of the claims for exceptionally substantial and massive construction.

The same methods which have produced the Elektron hoisting machinery have been carried into the designing and construction of its safety attachments, with the result that they have secured the approval of every engineer and inspector who has ever been called to pass upon them, and have stood the test of time without failure. The line of Elektron devices of this kind is unusually complete.

The important feature of high grade work "at the building" has been given careful study, with the result that attached to each selling office of the company, there is a competent corps of mechanics, who have installed the Elektron apparatus in such a way as to make the reputation of the completed plants in thorough harmony with that of the factory product.

NATIONAL METER COMPANY, 84 CHAMBERS ST., NEW YORK.

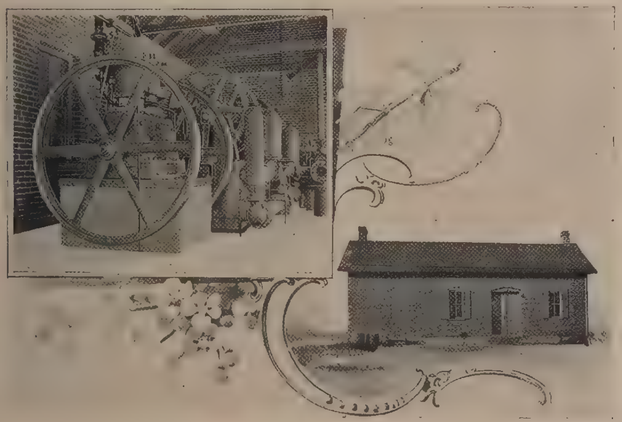
NASH Gas and Gasoline Engines have been largely used for Electric Lighting and Pumping Plants for suburban homes and have proved very satisfactory in service. The machinery is convenient, reliable and economical in operation,

it is easily installed, generally in a power house of simple construction, and may be cared for by an attendant of ordinary skill.

Our illustration shows a Nash Direct-Connected Electric Lighting Plant of 400 lights capacity, in two equal units of 200 lights each, installed at a country home at Greenwich, Conn. Direct-connection by the Nash method secures a practically unvarying speed for the generator, and the eye is unable to detect any flickering in the lights in ordinary working. In fact, steady lights are guaranteed, which can only be done with a high-grade engine specially constructed for this service.

Current is supplied for both arc and incandescent lamps, for an electric elevator and to charge storage batteries for the night service, automobiles and an electric launch. The engines are operated by liquid stove gasoline used direct.

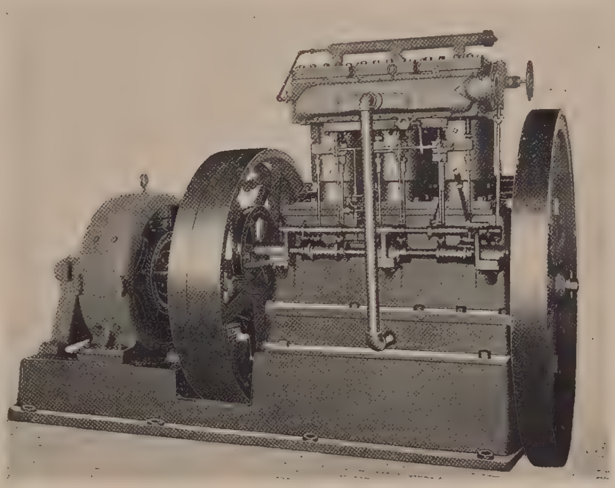
Our next illustration shows a 30 h. p. Nash Gasoline Engine direct-connected by friction clutch to a Triplex Pump, such as used for town and village water works. Plants of this kind in smaller sizes have been largely used for the water supply of country houses, generally pumping to an elevated tank. In the larger sizes such pumping outfits may be used on occasion for fire service, pumping direct into the pipe system under increased speed and heavy pressure.



A special feature of these plants, and one that materially reduces the fire risk, is the ability to start them up at any time and develop full speed and fire pressure within three minutes from the time the alarm is turned in.

In the same way Nash Electric Lighting Plants may be started up ready for service with as little delay as the pumping plants. This matter of quick availability is a feature of the Nash outfits and one of great importance and value for country houses.

For Power Plants in Office Buildings, supplying current for Electric Lighting, Electric Elevators, Pumps, Fans, Refrigerating and Other Machinery, our Nash Direct-Connected Sets, such as the one of 500 lights capacity, illustrated, are eminently suitable, whether forming a complete outfit, for all requirements, or as auxiliary to a steam plant which it is desirable to shut down at night or during the summer months on account of the heat.



SOMETHING NEW IN DECORATIVE STONES.

ABOUT twelve years ago Thomas H. Greenway, a young English marble carver who learned his trade in one of the best shops in London, came to this country, locating in the rapidly growing city of Spokane, in the state of Washington, where he soon built up a profitable and steadily increasing business. Indians came down to this little town, as to all of its kind, dirty, ragged and lazy, trading their wares for supplies and selling trifles made of bone and horn and stone. Among the little trinkets these Indians trafficked in were many curiously fashioned from stone—boxes for matches, finger and ear rings, brooches, and the like, no two the same. The colors—green—of many and wonderfully attractive shades with intricate markings, twisted, convoluted and contorted into beautiful pictures past the art of man to reproduce.

The educated eye of our stone cutter recognized great value in this stone if in quantities to work commercially, and at once set about to find its source; but so carefully was this secret guarded that only after months of the most persistent and laborious effort was it discovered over sixty miles to the north in rugged mountains far from roads or the homes of the white man. More than five long years, winter and summer, Greenway lived on his discovery, first in a tent, then in a log cabin, till he had acquired the mineral claims now in part embraced in the property of the United States Marble Co. of Spokane, Washington, a great corporation capitalized at $2,000,000.

Two quarries were developed, producing blocks larger than possible to transport, and a shop with saws, lathes, air compressors, and the other usual machinery of the modern marble worker's plant installed. These quarries, called the "Landscape" and the "Royal Washington," contain inexhaustible stores of delicate and endless shades of green onyx-like material, some possibly akin to alabaster, much of it similar to precious serpentine or to jade, and susceptible of being fashioned into articles of the most ornate and unique character imaginable, as slender as the finest Venetian glass and rivaling in translucency the thinnest porcelain.

It is needless to particularize the many uses that will readily occur to the architect and decorator for a material of this description.

In a property comprising more than a thousand acres, composed of great cliffs and with canyons five hundred feet deep there may long remain hidden treasures, so in this. For four years they had been tramping unknowingly over the largest deposit of green serpentine in the world, when early last spring a purposeless blow from a hammer disclosed a different formation and led to systematic investigation and development. Beginning on the side of a canyon where the deposit is visible in depth at least 300 feet, this great dyke of serpentine is traced through the company's property for nearly a mile, with surface croppings from 600 to 700 feet wide, aggregating the enormous quantity of more than 900,000,000 cubic feet.

Development is progressing rapidly at four separate openings where the outcroppings showed different colorings, designated in their sequence on the deposit as "Canyon Green," "Athenian," "Corinthian" and "Pompeian Purple." Large blocks are possible from each, the material structurally sound, sawing and working easily and taking an excellent finish either polished or honed.

The "Canyon Green" being the most accessible has received greatest attention and orders are being filled promptly for New York and other eastern cities. The color, a bright vivid green, intermingled with lighter shades and tear drops, crossed with narrow and broad bands of white. Very rich effects can be obtained, suitable for columns, pilasters, wainscoting and similar uses.

The "Athenian," a rich brecciated green of light and dark shades, intermingled with purple, the white markings very much broken and erratic, suitable wherever delicate effects are desired.

The "Corinthian," a lighter shade of green than either the Canyon or the Athenian, very fine texture, the green occurring in more solid form, banded broadly with greenish white with an occasional picking of red and pink, is destined to be very popular, and with proper manufacture (sawing and matching), will produce stunning effects.

The "Pompeian Purple" comprises a beautiful green and purple in pleasing patterns, the colors generally about equally divided—can be set in matched panels very effectively.

It is believed that the interests of architects, decorators and their clients can be best subserved by a conveniently located permanent exhibit, where specimens sufficiently large can be fixed in place to show better the general character of the material than can be possible in the methods heretofore adopted of the necessarily small samples at the individual offices, or rather to emphasize these latter by showing more distinctly in the larger examples how actual work will appear. The first step in this direction has been taken at the eastern office of the United States Marble Co., Nos. 922 and 923 the St. James' Building (1133 Broadway), and will be a permanent feature to which architects and others interested are invited and where they will find much worthy of their consideration.

IN BRONZE AND BRASS.

ARCHITECTS and Sculptors who mark the executed work in bronze and brass are aware of the fact that the Gorham Mfg. Company has kept faithfully to the front in the steady advance of artistic and constructional detail in the several lines which they represent. No opportunity has been lost in making innovations and affording conveniences for the carrying out of truly first-class work. A recent addition to the Foundry has made an important increase of facilities. Their artisans are men of intelligence, and of high ability and long experience, and their work is invested with the true spirit and feeling desired by the designer. The elaborate decorations and more substantial work now being called for in the equipment of large banking and commercial institutions, afford excellent opportunities for the architect and founder. The Gorham Company is well equipped for this line of work and will submit estimates from architects' scale drawings and will make full size working drawings from the same, where necessary.

At the present time the Foundry is engaged with many orders in process of execution including Statuary, Bank Fittings, Doors, Tablets, etc. A beautiful catalogue recently issued illustrates a multitude of Architectural, Ecclesiastical, Ornamental and Statuary Bronze and Brass, exemplifying the high degree of excellence attained by Gorham, New York City.

THE TABOR SASH COMPANY, OF NEWARK, N. J.

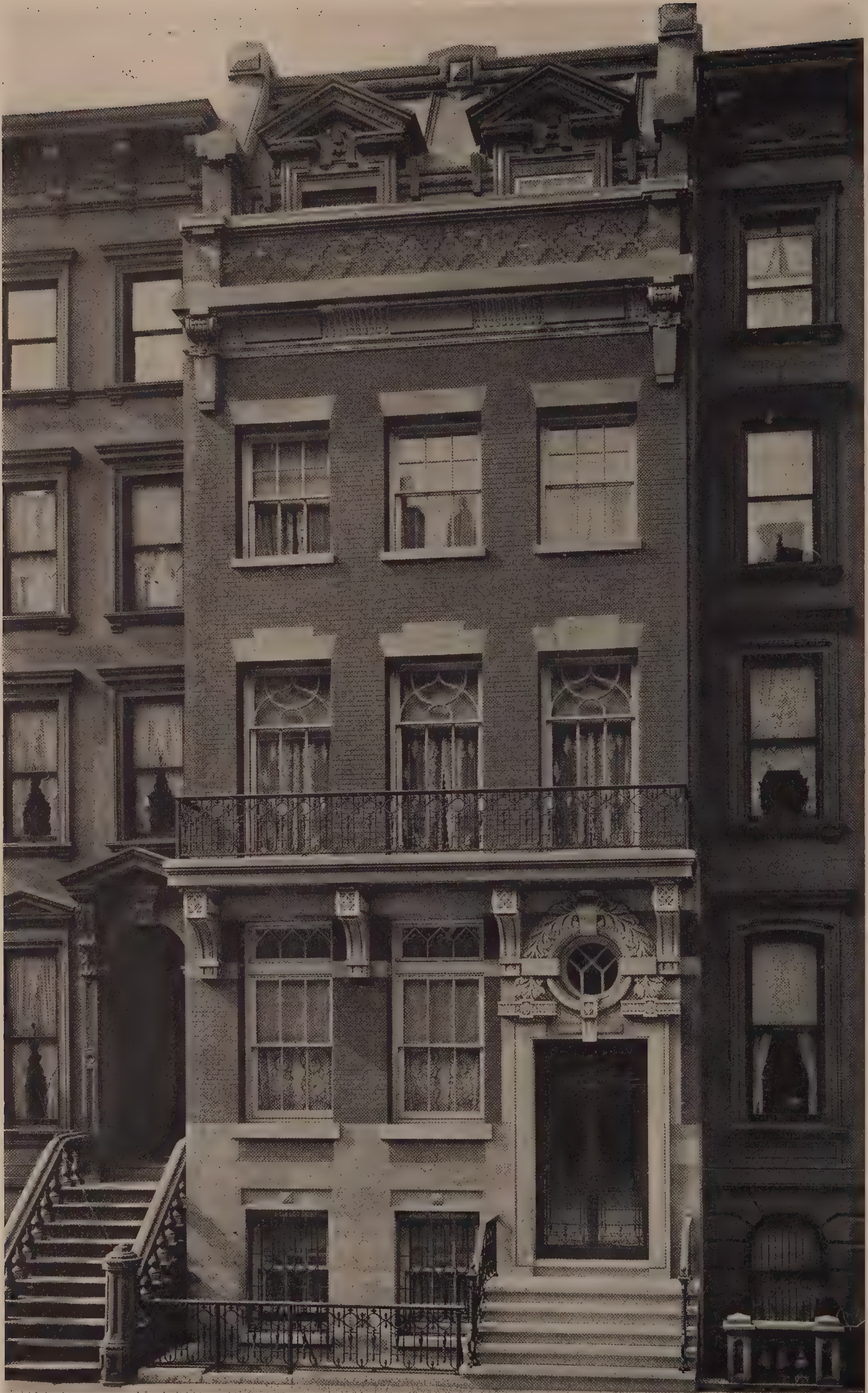
TWO and one-half years ago this company was incorporated and began the manufacture and sale of a device unknown to the trade and involving a principle against which strong prejudice existed. They have steadily come forward until they are not only the leading manufacturers of vertically and horizontally pivoted sash devices, but the authority upon windows and their improvements and possibilities.

Three primary propositions underlie this growth: first, the requirements of the trade; second, meeting those requirements with the best that skill can produce; third, having produced the best, to back it with the strongest guarantee under all conditions within the bounds of reason, and to make that guarantee good.

The Tabor Strip and Fixtures are an essential feature, one may safely assert, of the modern, fully equipped and perfectly appointed building. Such a result verifies the judgment that met a demand which the history of building will show has existed for a period of fifty years or more. During the last half century the efforts have been constant to improve the ordinary window. The fact that the window of to-day is practically identical with the one of fifty years ago, speaks volumes of the futility of these efforts.

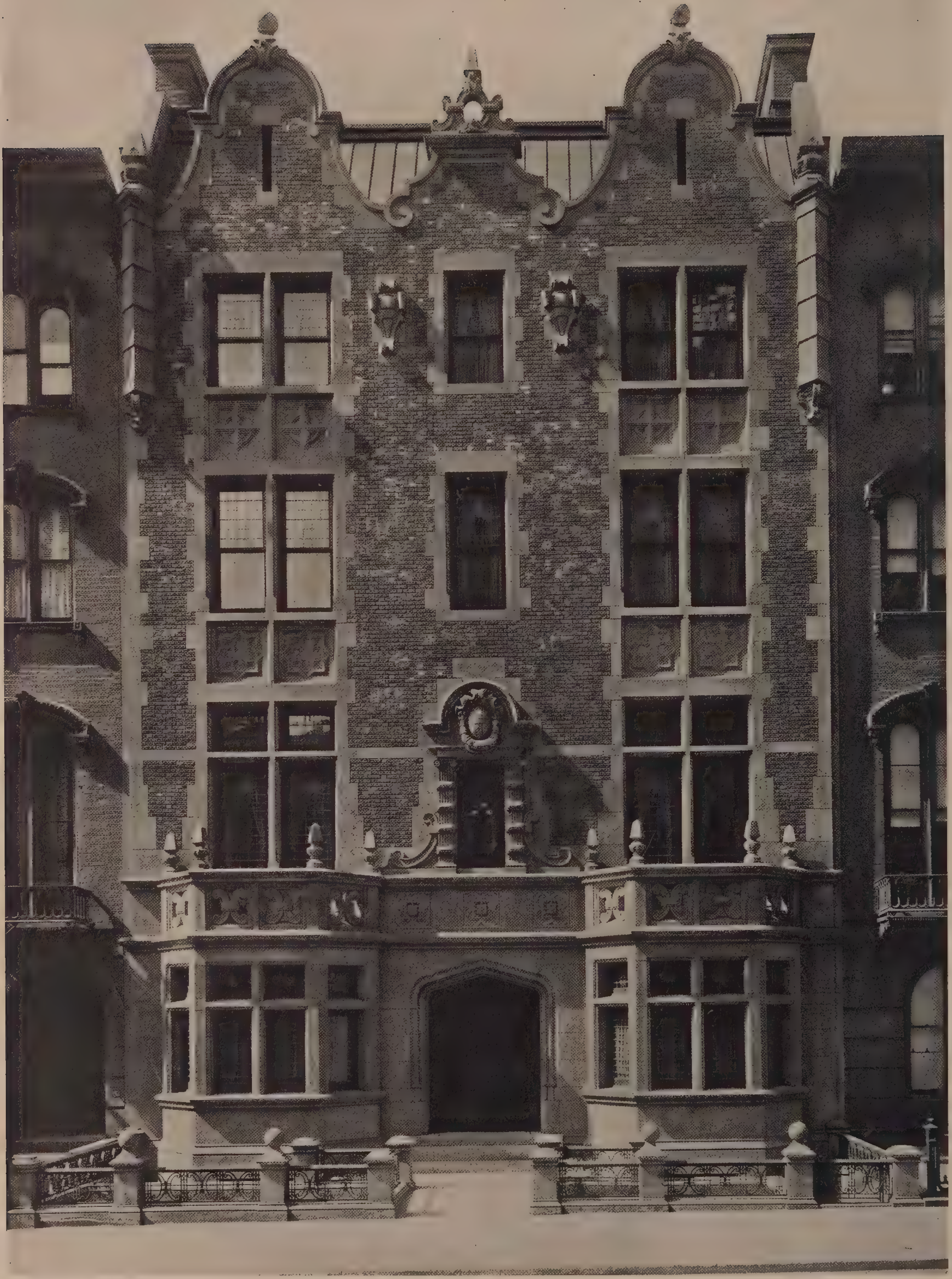
With a thorough knowledge of the situation and a keen appreciation of the conditions, bound to become more and more serious with the continuous advance of architecture, Mr. C. D. Tabor, vice-president of the above company and the inventor of the various improvements and devices bearing his name, has brought his years of experience in the use of woods and their application in the almost unlimited forms of mechanical construction and movement, to bear upon the difficulty.

It stands, not simply an improved window, but a complete line of windows embracing every conceivable need, from the cheapest sash for quick construction to the massive and ponderous fire-proof window—each and every one worked out to a point of absolute perfection.



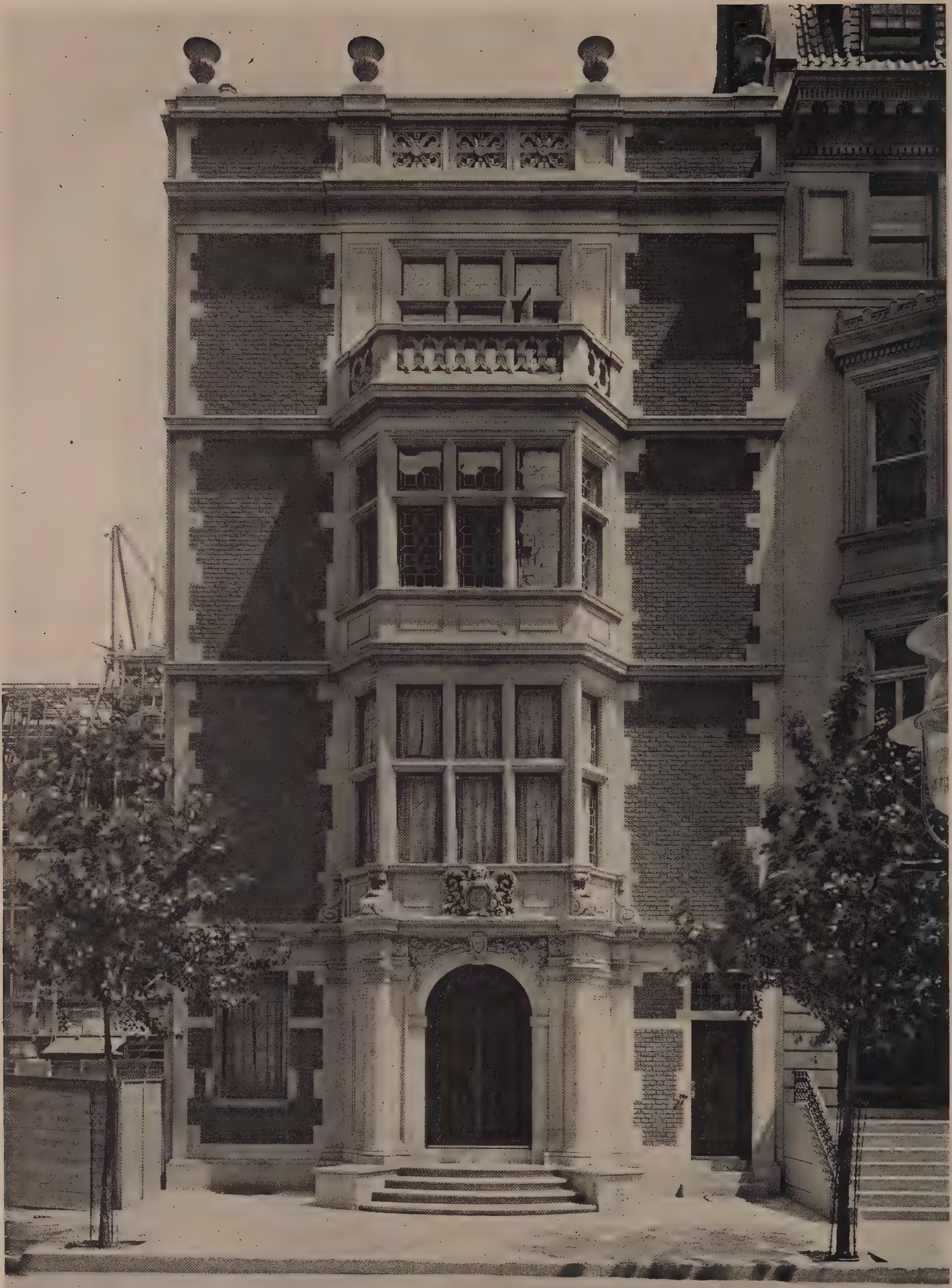
Wurts, Photo. Palmer & Hornbostel, Architects.

RESIDENCE, HENRY ZIEGLER, 18 E. 54TH ST., NEW YORK.



Wurts, Photo. Geo. E. Wood, Architect.

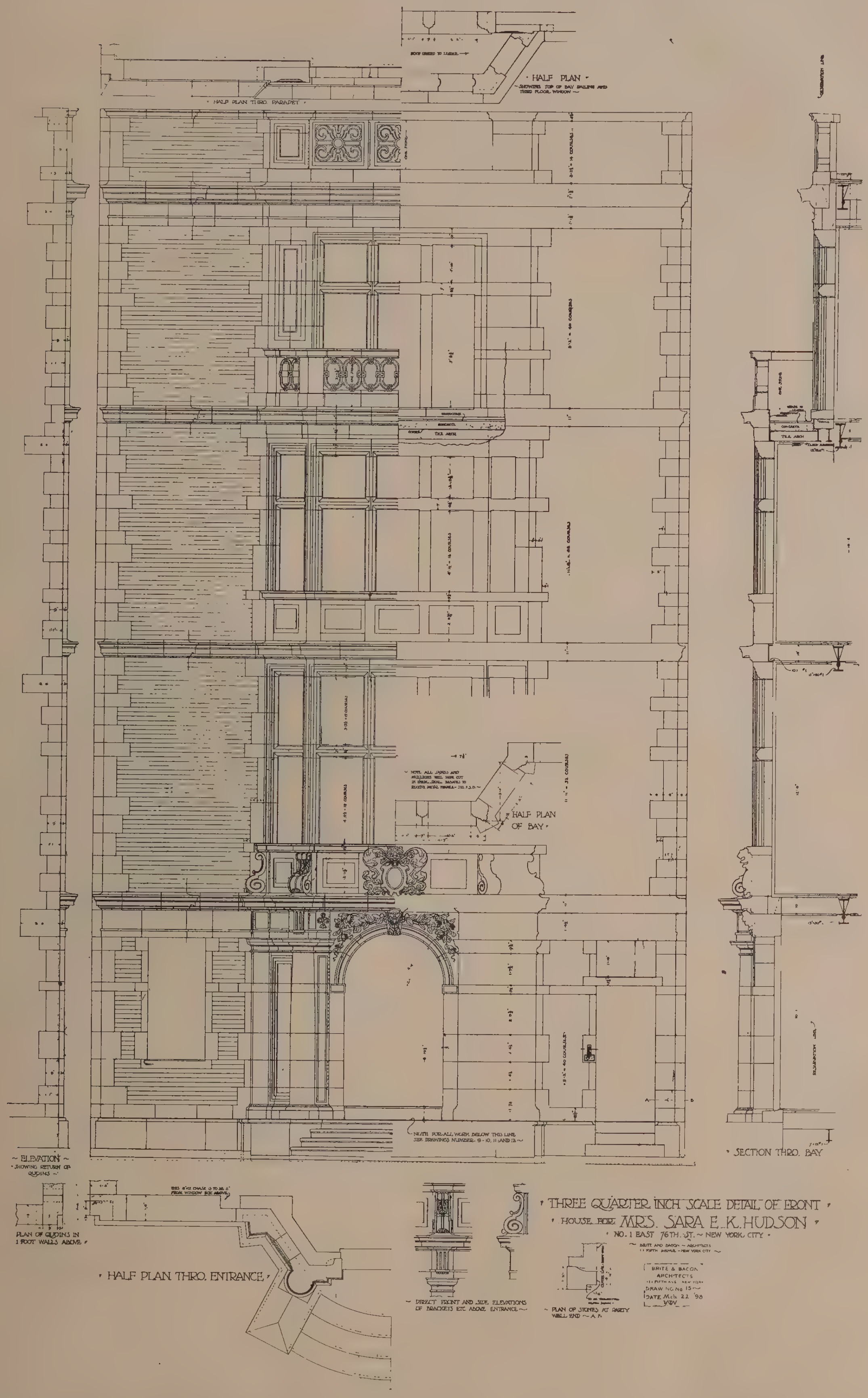
CHURCH HOUSE, ST. GEORGE'S CHURCH, 208 E. 16TH ST., NEW YORK.



Wurts, Photo.

Brite & Bacon, Architects.

RESIDENCE, MRS. SARA E. K. HUDSON, 1 E. 76TH ST., NEW YORK.

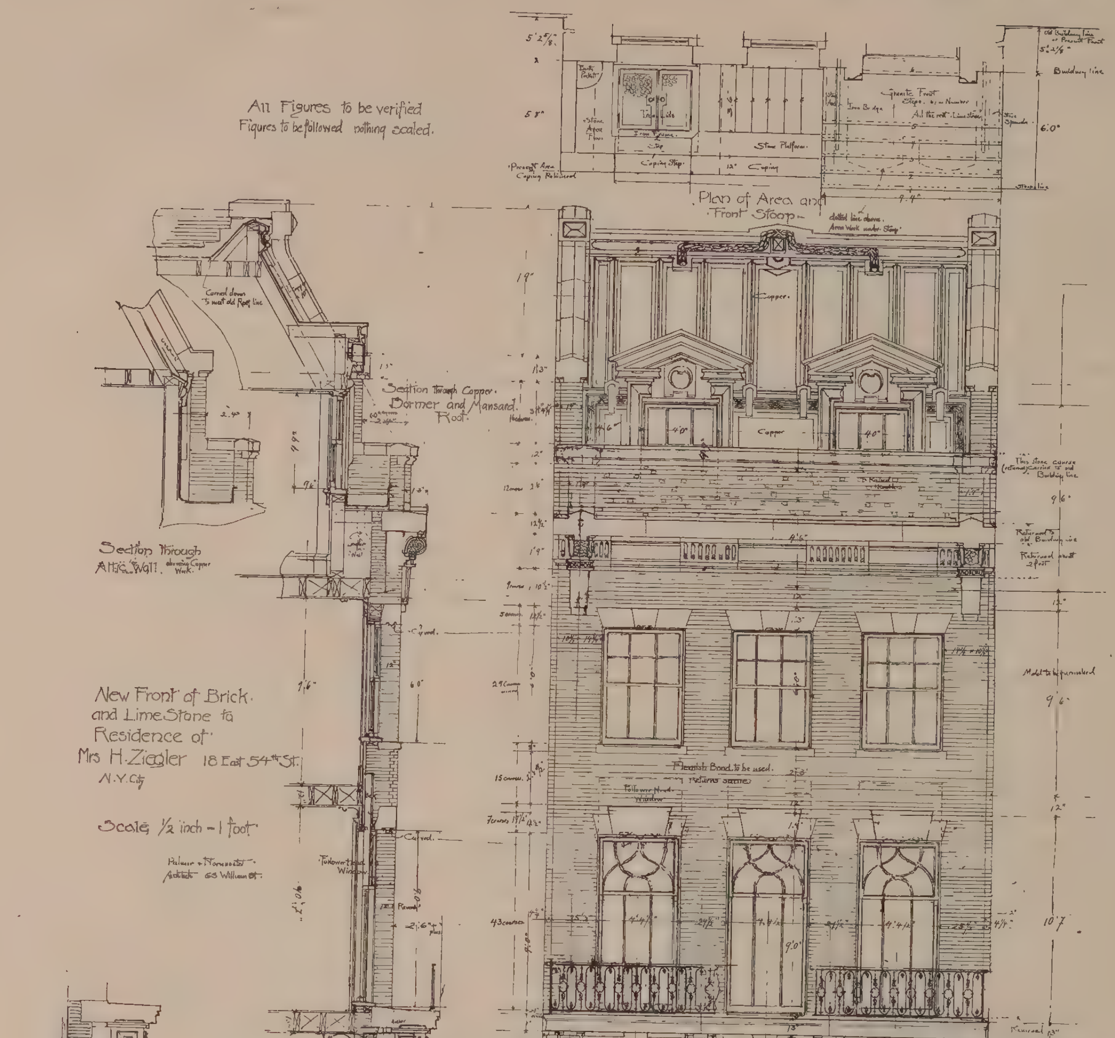


THREE QUARTER INCH SCALE DETAIL OF FRONT

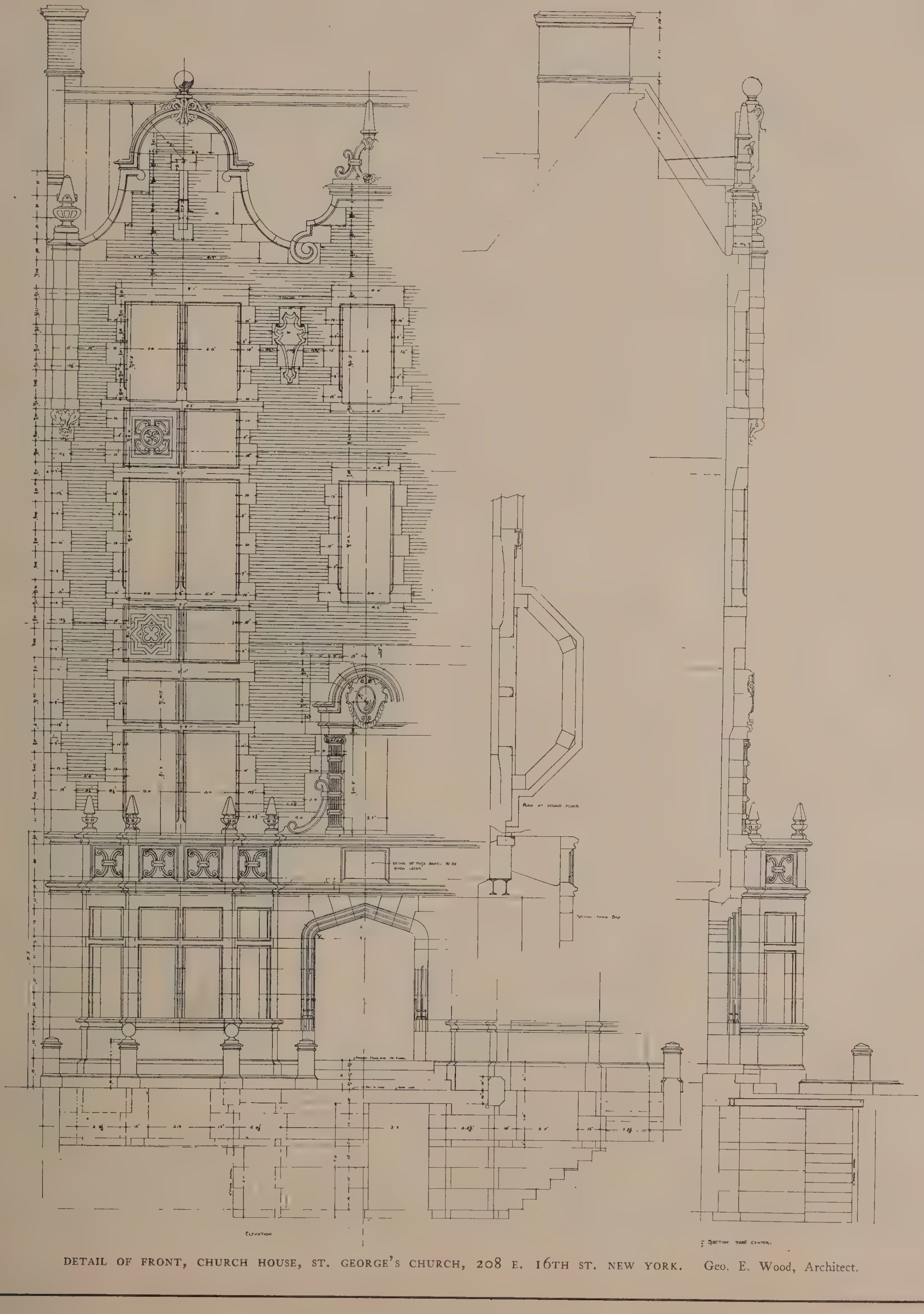
HOUSE FOR MRS. SARA E. K. HUDSON

NO. 1 EAST 76TH. ST. ~ NEW YORK CITY

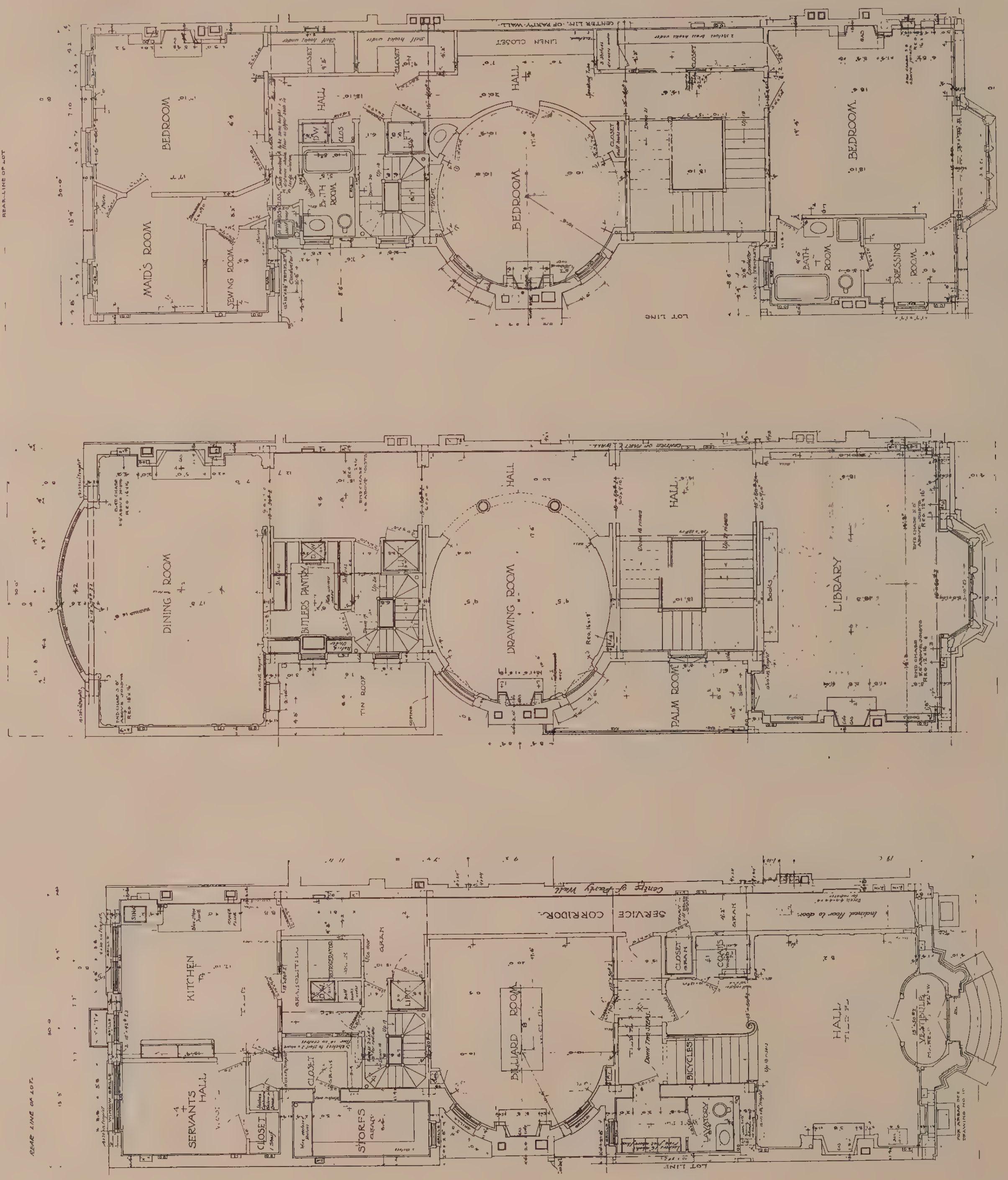
HALF PLAN THRO. PARAPET
HALF PLAN
~ SHOWING TOP OF BAY RAILING AND THIRD FLOOR WINDOW ~
NOTE ALL JAMBS AND MULLIONS WILL HAVE CUT IN ... TO RECEIVE METAL FRAMES ...
HALF PLAN OF BAY
NOTE FOR ALL WORK BELOW THIS LINE SEE DRAWINGS NUMBER 9 - 10, 11 AND 12 ~
~ ELEVATION ~
SHOWING RETURN OF QUOINS ~
SECTION THRO. BAY
PLAN OF QUOINS IN 1 FOOT WALLS ABOVE
HALF PLAN THRO. ENTRANCE
~ DIRECT FRONT AND SIDE ELEVATIONS OF BRACKETS ETC. ABOVE ENTRANCE ~
~ PLAN OF STONES AT PARTY WALL END ~ A. P.
~ BRITE AND BACON ~ ARCHITECTS
11 FIFTH AVENUE ~ NEW YORK CITY ~
BRITE & BACON
ARCHITECTS
11 FIFTH AVE NEW YORK
DRAW NO. No 15 ~
DATE Mch 22 '98
VVV


All Figures to be verified
Figures to be followed nothing scaled.
Plan of Area and Front Stoop.
Section through Copper Dormer and Mansard Roof.
Section through Attic Wall. showing Copper Work.
New Front of Brick and Lime Stone to Residence of Mrs H. Ziegler 18 East 54th St. N.Y. City
Scale ½ inch – 1 foot
Palmer & Hornbostel Architects 63 William St.
Copper
Flemish Bond to be used.
Section through Windows and Area.
Section through Front Door and Stoop.
Yellow Face Brick
Area under Stoop Faced with Yellow Brick.
Cellar Opening
Area.
Cellar Door.
Front Elevation.

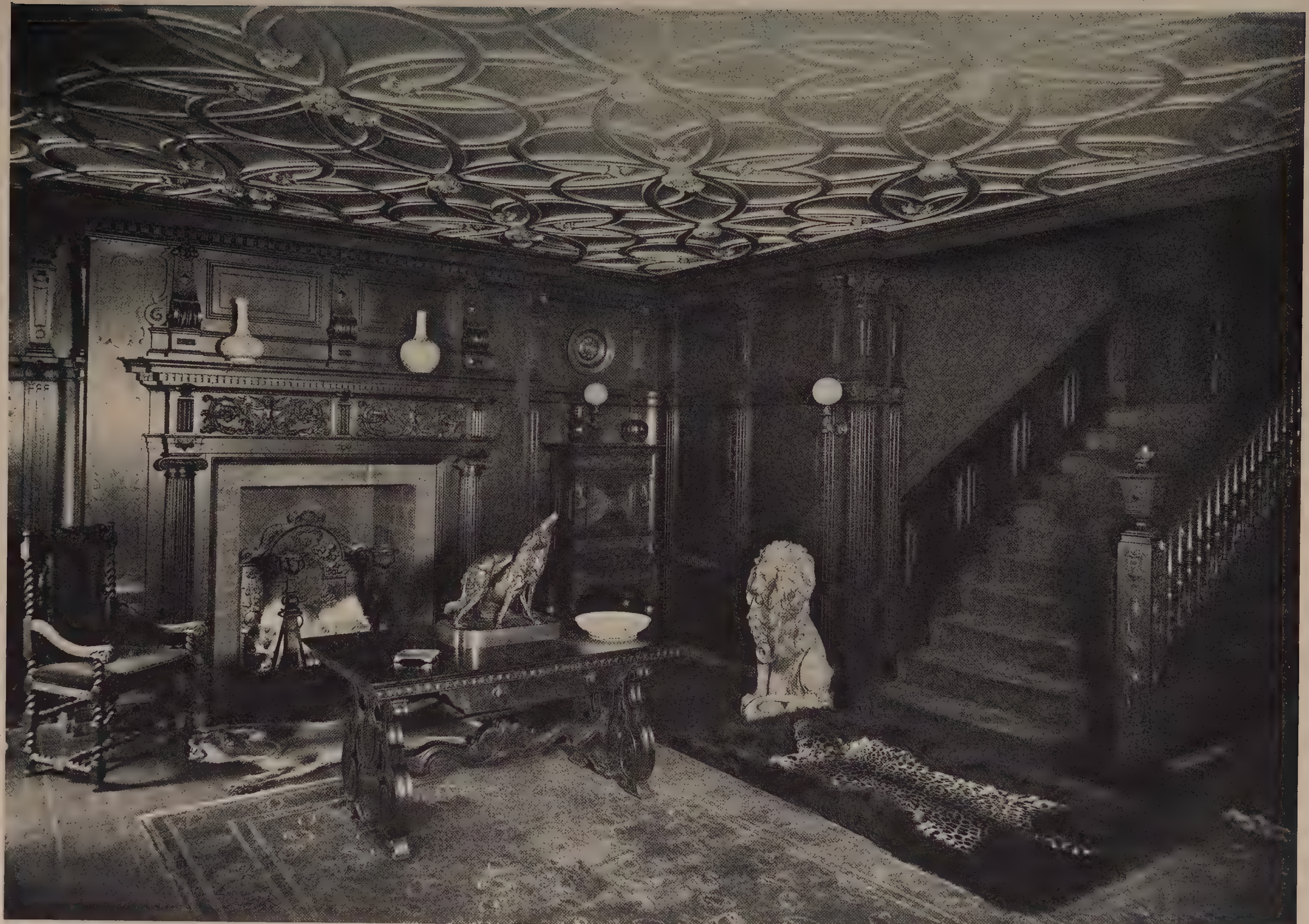
DETAIL OF FRONT, RESIDENCE, HENRY ZIEGLER, 18 E. 54TH ST., NEW YORK. Palmer & Hornbostel, Architects.



DETAIL OF FRONT, CHURCH HOUSE, ST. GEORGE'S CHURCH, 208 E. 16TH ST. NEW YORK. Geo. E. Wood, Architect.



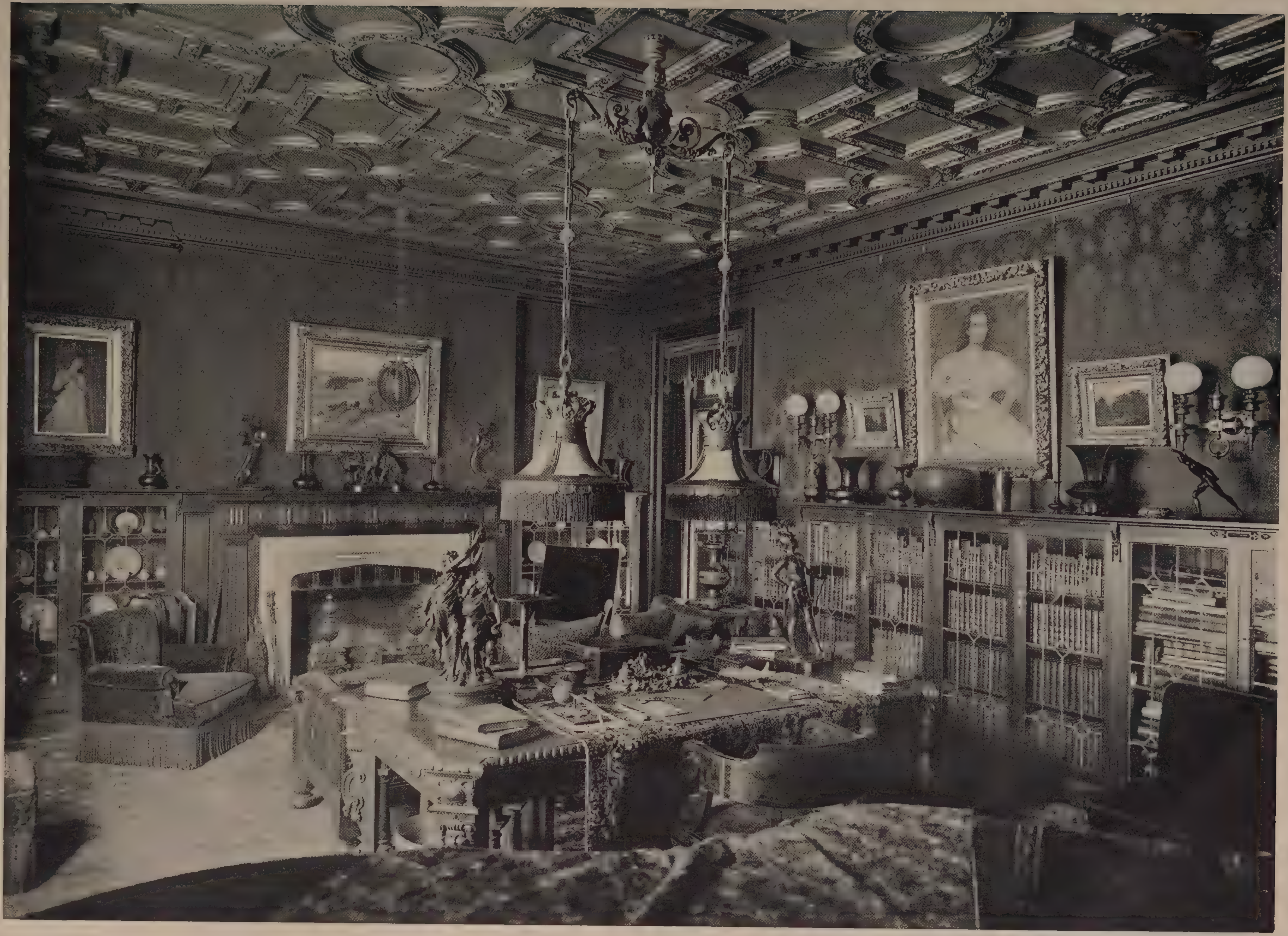
PLANS, RESIDENCE, MRS. E. K. HUDSON, I E. 76TH ST NEW YORK. Brite & Bacon, Architects.



Philip Hiss Company, Decorators.

Brite & Bacon, Architects.

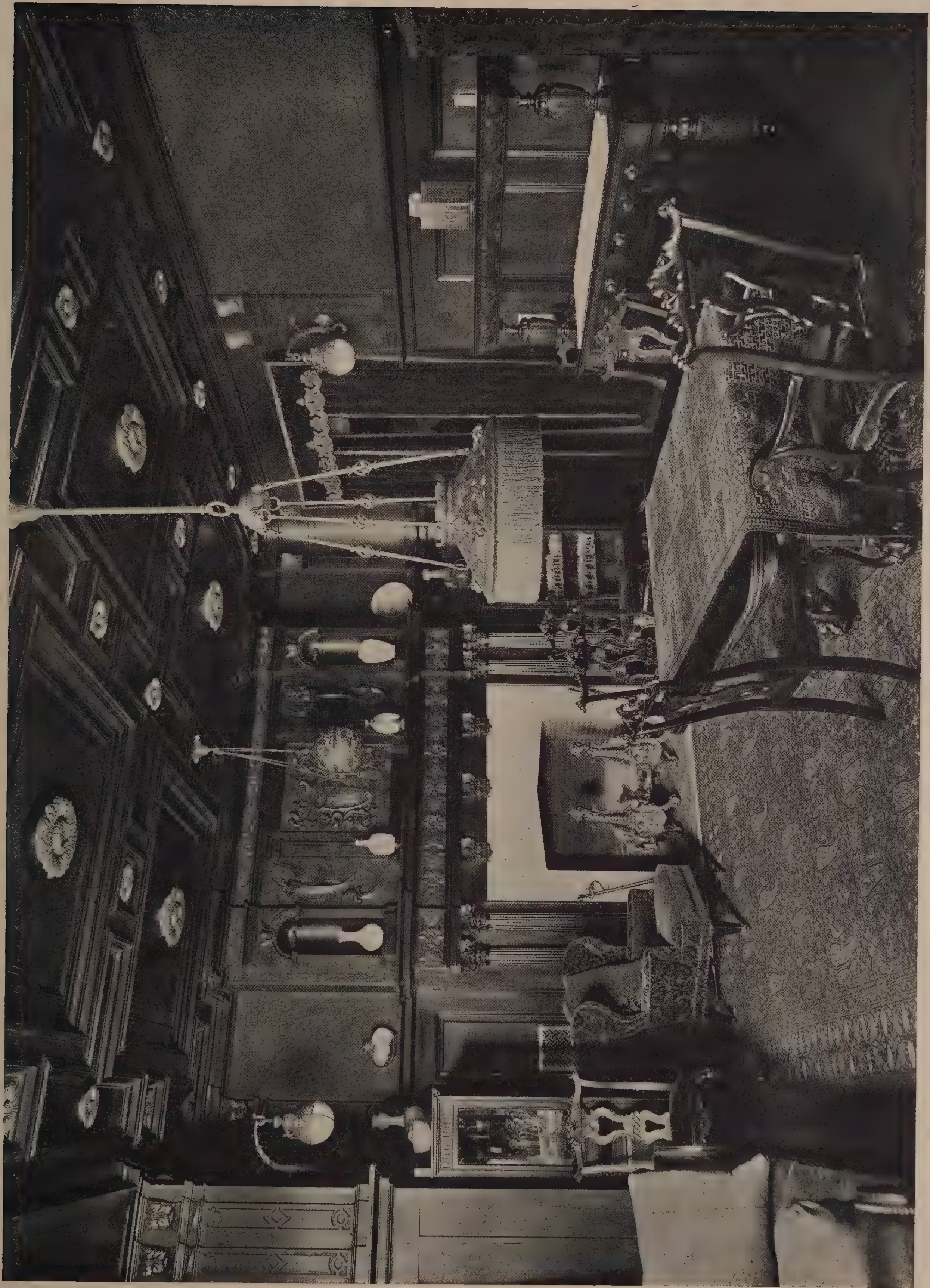
MAIN HALL, RESIDENCE, MRS. SARA E. K. HUDSON, 1 E. 76th ST., NEW YORK.



Philip Hiss Company, Decorators.

Brite & Bacon, Architects.

LIBRARY, RESIDENCE, MRS. SARA E. K. HUDSON, 1 E. 76TH ST., NEW YORK.



Philip Hiss Company, Decorators.

Brite & Bacon, Architects.

DINING ROOM, RESIDENCE, MRS. SARA E. K. HUDSON, 1 E. 76TH ST., NEW YORK.

The steady growth of their business from its modest start to its present proportions, within such a brief period, is sufficient evidence of the merit of their production; and their business methods in protecting their clients in every instance by a five year guarantee against any possible imperfection of workmanship or other mischance—a guarantee which is proven *bona fide* by the fact that where they have discovered any defects after installation they have voluntarily rectified the fault at once—assure them of the continued confidence of architects, builders and the trade at large.

LINCRUSTA-WALTON.

NO WALL-HANGING has ever had the approval of so many distinguished members of the architectural profession as has Lincrusta-Walton, and this is due not only to its sanitary qualities, but to its decorative adaptability. Next to the wood and stone it is the most durable of all decorations and affiliates best with the architectural features it supplements. Perfectly sanitary and washable it is none the less artistic, combining the beauty of less healthful hangings and the advantages of the most sanitary, with the disadvantages of neither.

The many hundred designs produced by the manufacers, Fr. Beck & Co., give unlimited range for selection. Every period is represented by numerous patterns, and every exigency is provided for. Dadoes, friezes, ceilings, panels, and side walls are in great variety, and there are special dadoes for the stairway, ceiling centre pieces and set ornaments designed particularly for architectural purposes.

The composition used in making Lincrusta-Walton takes all colors nicely and the variations possible are innumerable. It may be given a metallic finish, or may be made to closely imitate ivory, marble, silk, burlap, all the woods, stucco, or it may be decorated in colors to suit the taste of the architect.

An interesting feature is the hand-decorated Lincrusta-Walton which Fr. Beck & Co. are prepared to furnish. This is decorated in colors by hand, and is ready to hang, obviating the necessity of coloring the walls after the Lincrusta is in place, and yet having none of the machine-made appearance, so common to many wall-hangings. Briefly, it is a high-grade decoration, sanitary, indestructible and artistic. A fully illustrated catalogue is issued, which is of great value to the architect.

ARCHITECTURAL METAL WORKERS.

IN POINTING out in this number of ARCHITECTURE the many remarkable achievements of our Metropolitan craftsmen during the present season, three feats performed by Richey, Browne & Donald deserve attention:—the huge ornamental panels in high relief on the face of the Macy building, cast in one piece, perhaps the largest castings of the kind ever attempted; the exquisite metal work with which they have beautified some of the finest banking rooms in the country, and the Corinthian capitals which they have successfully cast for the Bank of Montreal, probably the most difficult architectural castings in bronze yet made in this country. These capitals were regarded by many bronze founders as practically impossible on account of the high relief and deep undercut of the acanthus leaves, and especially the variable axes of curvature of the helices—so boldly modeled as to suggest the free spirals of rams' horns. In the fine golden bronze which Richey, Browne & Donald have perfected, these capitals will have an astonishingly rich effect upon their green marble column.

The spirit of this firm is sincerely artistic. Combining fine intuition toward the architect's plans, with a craftsmanship which solves every mechanical problem, and a firm grasp of artistic details, which at their hands are invariably dignified, choice and appropriate, Richey, Browne & Donald have developed the manufacture of bronze counter rails into a specialty. The American Exchange National Bank for which they furnished the bronze stair railings, elevator enclosures, ventilators, counter screens, and the folding doors for the main entrance, is an example of their habitual artistic treatment of such subjects.

SOMETHING MORE ABOUT ROOFING TIN.

WHY is "Taylor Old Style" Roofing Tin invariably selected for important contracts, when a careful test is made of the quality of materials submitted?

Because no expense is spared in making it the highest possible grade; only the finest raw materials enter into its manufacture—uniformly soft and pliable blackplate, best pure refined tin, new refined lead, and pure, first quality oil.

It is the only brand made in the same way as Roofing Tin was made seventy-five years ago, and the tin we made then lasts to the present day. Every sheet is dipped, soaked and manipulated by hand labor in open pots of metal of different temperatures, and the maximum amount of rich, heavy coating is thus absorbed. No rolls or acid flux are employed, and this insures a natural coating, free from any corrosive tendencies.

The greatest care is exercised in selecting only the perfect sheets for branding, this rigid inspection insuring a perfect product.

The cost of making this well-known brand prevents it from competing in price with the numerous imitations on the market.

"Taylor Old Style" Roofing Tin is intended only to supply the demand for the best that can be made.

Specify this tin on your first-class work and you can rest assured that no matter how much the rest of the building may deteriorate in time, the roof will never give cause for complaint.

LIGNI-SALVOR.

FROM time immemorial efforts have been made to protect articles of wood from the ravages of the weather, the deteriorating influences of the earth, climate and of microscopic organisms, so as to give them a longer period of serviceability than they would possess without the application of preservatives.

Carbolic acid, one of the strongest antiseptics known to modern science, combined with other substances, in such a manner as to enable its application to wood, is the long-sought, cheap and reliable preservative agent, and this combination has been discovered in Ligni-Salvor.

Incidentally, Ligni-Salvor imparts a very attractive nut-brown color to the wood, showing the grain or fibre of the wood to advantage and is therefore specified by leading architects in dwellings, shingles, half-timber work, porches, verandas, beam ends, etc., thus uniting beauty and serviceability.

It is easy of application, soaks into the wood readily, and covers it with an impenetrable and lasting coating, which resists all influences of ground, water and atmosphere. It contains 60° Crude (4.25° chemically pure) Carbolic Acid, and absolutely destroys all germs, mould and fungoid growth on woodwork, brickwork and masonry, keeping the latter dry. One gallon covers about 300-350 square feet, and gives woodwork a neat brown tint. Dries quickly and goes further and is more serviceable for the uses to which it is put than ordinary paint. William Menzel & Son, 64 Broad Street, New York.

LUXFER ELECTRO-GLAZED PRISMS AS A FIRE RETARDANT.

ELECTRICITY provides a most effective means of uniting the individual prism lights in a process called electro-glazing. Each prism light is held as if in a vice by a flange of pure copper electrolytically deposited. The strength and rigidity of the prism plates when glazed in this manner are remarkable, enabling us to dispense entirely with the iron stiffening bars which render the ordinary leaded glass work so unsightly. Electro-glazed plates are stronger than plate glass to resist wind pressure, the action of hail and the impact of flying fragments. This great strength of the electro-glazed plate is most evident when the plate is exposed to the influence of heat and flame.

The National Board of Fire Underwriters have after repeated tests accepted Luxfer Electro-glazed Plates as a fire retardant equal to anything on the market. This electro-glazing is applied to plate glass as well as to prisms.

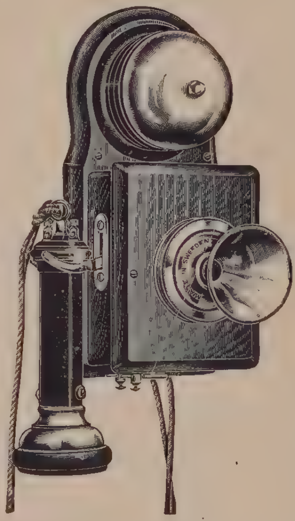
Luxfer Prisms are not only electro-glazed, but are put up in three other forms of glazing, as follows: Interlocked Copper Bar Glazing, Drawn Copper or Zinc Bar Glazing, and Luxfer Sheet Prisms, which are cut to size or glazed in ornamental design. Of these, Luxfer Sheet Prisms are the cheapest. These Sheet Prisms are made more especially for factories, but which, when put up in ornamental designs, are quite satisfactory for store fronts. It is not unusual for an immense factory to have every window, top and bottom sash, equipped with Luxfer Sheet Prisms.

It is with great pride that the American Luxfer Prism Company looks back upon its ten years of experience, because they find the unusual efforts made toward pleasing the architects to have resulted far more satisfactorily than was ever hoped, because to-day almost every architect in the country not only specifies, but insists upon having Luxfer Prisms.

COLONIAL COLUMNS.

THE increased use of large colonial columns in the better class of dwellings has called attention to the defects which develop in columns which have been long standing, and has stimulated the makers to seek to obviate these defects. The new method adopted by the Doane & Jones Lumber Co., of Elmira, N. Y., in their "Perfect Joint" column, has been given the unqualified endorsement of architects, and their column is rapidly being recognized as superior to all others. The difficulty of securing solid sticks from which to turn large columns, and the unsightly appearance caused by season checks and seams which develop from exposure to the weather, make the column built up of narrow staves the most desirable, if properly constructed. The way in which the staves are locked together is the peculiar and striking feature of the "Perfect Joint" column. First, the material is carefully selected and kiln-dried; then the staves are run with the edges so formed that when put together they cannot come apart or open at the joint. The bases and capitals are turned from wood; or the capitals can be furnished in composition work. "Perfect Joint" columns are commonly made of clear, kiln-dried white pine. Other woods used are Southern Poplar, Cypress, Red Cedar, and for interior work, Quartered Oak, Cherry, Birch and Mahogany. They are made in all diameters from six to thirty-six inches and up to thirty feet in length. These colums have been shipped to all parts of the United States and architects everywhere are invited to examine further into their merits.

ERICSSON HOTEL TELEPHONE.



IN A hotel or apartment house of to-day telephones are quite as necessary as elevators or mail chutes. After many unfavorable experiences, architects, engineers and contractors have gradually discarded the cheap and inefficient telephone apparatus and are choosing more for quality and durability than price. For these reasons the New Hotel Essex in New York City is equipped with Genuine Ericsson Telephone and Switchboard, which gives quick communication from every suite and hall to the office, and places the managers within easy reach of their patrons. The telephones are all of the hand microtelephone pattern. Each of these is provided with flexible cord of sufficient length to allow the patron to call the office or to answer a call without rising from the couch or bed. When through using the rising of the lever in the handle makes and breaks all necessary connections, and it need not be replaced on the hook as in other telephones. When invented the hand microtelephone was considered a curiosity, but its utility and compactness have caused it to take the place of the once popular nickel desk set, and in many cases replace the wall instrument as well. In operation the office is called by simply pressing the contact in the handle of the hand microtelephone, which act throws the drop at the switchboard. The battery connects in the usual manner, answering the call, and if desired, call some other suite, and they enable the two to converse. The call to the suite is made by a small gong placed over the ceiling, which is loud enough to call a person, but not loud enough to disturb one. The system is operated by centralized battery, and is so arranged that when desired the motor generator can be thrown into circuit for calling. In addition to this system the Ericsson Telephone Co., of 296 Broadway, New York City, makes a number of different telephones of special design and finish for special uses, including intercommunicating patterns and for exchange service.

ROSENDALE CEMENT.

SIXTY years ago the first American cement was made at Rosendale, Ulster County, New York. The product, originally crude, soon established itself as a staple trade article and pushed its way into all the States east of the Mississippi River.

This natural cement, which soon became known as Rosendale Cement, proved to have such excellent hydraulic qualities that it was readily adopted by the leading engineers of the East. Consequently, when such centers as Boston, New York, Baltimore and Philadelphia began to leave their colonial boundaries and take the first strides toward their modern growth, millions of barrels of Rosendale Cement went into their streets, bridges, public buildings and homes. As the years went by the "Hoffman." "Norton," "Beach," "Newark-Rosendale" and "Brooklyn Bridge" brands of cement became known to even the novice in building operations. In more recent times, when Portland cements, both European and American, came into use, the lasting qualities of Rosendale Cement had been so conclusively proved that it held its own ground, until it now goes into the market in millions of barrels annually.

When one considers that many of the largest buildings, such as the Waldorf-Astoria Hotel and Madison Square Garden in New York City, and such structures as the Brooklyn Bridge and Schuylkill Bridge at Philadelphia, were entirely constructed with Rosendale Cement, it is plain that its intrinsic worth is established. Aside from this, the United States Government has used over one million barrels in fortification construction along the entire Atlantic coast. Thousands of barrels have been used in dams, aqueducts and various kinds of water works construction, the State of Massachusetts alone consuming over a quarter of a million of barrels for this purpose. Now that cement making has become a science, the manufacture of Rosendale Cement has kept pace with the times, until the product is far better and more uniform than ever before.

VULCANITE PORTLAND CEMENT.

THE Vulcanite Portland Cement Company began the manufacture of cement in 1895, the capacity of the original mill—now known as No. 1—was 250 barrels per day. The high quality of the cement was recognized at once, its success was instantaneous.

The rapid growth of "Vulcanite" was unprecedented in the history of cement manufacture. It is recognized by the leading engineers, architects and contractors as the most economical and satisfactory of all Portland Cements. More than 150,000 barrels have been used in Jones & Laughlin's works, Pittsburg. More than 75% of the leading sidewalk paving construction companies in the United States use it, finding it superior for the purpose to the old reliable German brands. It has been used in the construction of many of the largest and most important buildings in the United States. It is a high-grade true Portland without adulteration, guaranteed to stand all the usual and accepted tests. It is not a low-priced cement, but its quality and carrying capacity considered, the cheapest on the market. Large storage capacity permits of thorough curing, hence every barrel is ready for use when shipped. There is no rushing of raw materials from quarries to crushers, from crushers to mills and from mills to kiln, which is frequently done to save time and expense. Haste is made slowly so as to surely produce uniformly sound and reliable cement.

"Vulcanite" Cement is ground 95% fine on the No. 100 mesh sieve and 80% of the whole will pass through the No. 200 sieve.

The main office of the Company is located in the Real Estate Trust Bldg., Broad and Chestnut Sts., Philadelphia. New York office, 160 Fifth Ave., Mr. Albert Moyer, Manager; Chicago office, 317 Chamber of Commerce Bldg., Mr. George W. de Smet, Western Sales Agent.

SCULPTURED LEATHER.

THE Sculpture of Leather was first practiced in the monasteries of Continental Europe during the 15th and 16th centuries by those pious brothers who, when not engaged in the routine of their duties, found employment for which posterity has cause to bless them.

Guided by the inspiring genius of Michael Angelo, Leonardo da Vinci, Raphael, Botticelli, Albrecht Durer and Hans Holbein, who were all doing their noblest work about this period, these pious brothers ornamented the bindings of their books so as to conform with the artistic contents. The results attained, crude though they were, formed the basis for the art of Leather Sculpture as practiced to-day.

Like other arts, which have been lost through the changes of time, this was allowed to lapse during the unruly times of the Reformation, for the firebrands of religious warfare left no time for tedious employment.

It remained lost for centuries until in 1881, during the period of tremendous developments in the art industries of Germany, Henry Busse, of Hamburg, revived this most exquisite art, fitted it to the more modern times, and to-day many of the European palaces testify of the beautifying results which can be attained through this medium. Travelers abroad are enthusiastic over what they have seen, and in the past decade our most exclusive decorators have imported these art objects in the form of screens, furniture coverings, etc.

The entire process being hand-work, thus permitting any scheme of treatment, either in design or in the color effect, Sculptured Leather is the ideal material for artistic and exclusive Mural Decoration. Architects are very cordially invited to place themselves in communication with The Busse Co., and to visit the workshops (No. 1105 Walnut Street, Philadelphia) with their clients, that they may see the scope of this industry.

PORTLAND CEMENT.

THE multiplication of manufacturing plants for making Hydraulic Cement is an indication of the increasing popularity of this American product. The demand for "Dragon" Portland Cement and the large number of important buildings in which it has been used exclusively during 1901, certainly place it in the front rank of American Portland Cements.

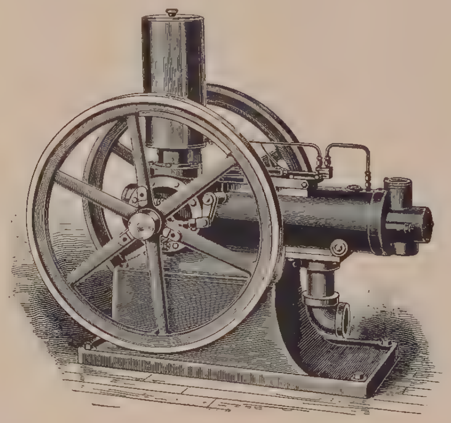
The foundations of the United States Custom House in New York City, one of the largest and most important structures in this country, have just been completed. Of the 16,000 barrels of "Dragon" Cement used here only the highest praise of its quality was ever expressed by engineers, inspectors and contractors. The New York Stock Exchange foundations, 54 feet deep, 8 feet thick, were built of "Dragon" Cement Concrete, and the same brand is being used on the superstructure. This magnificent work of the architect is one of the highest testimonials to the uniform quality of the Portland Cement. The massive masonry approaches to the new East River Bridge are constructed with "Dragon" Portland Cement to the entire satisfaction of its builders.

"Dragon" Cement is used also in the Granolithic work of the Department of Docks, in the new Chamber of Commerce Building, New York, and other large public structures, and holds an enviable record in 400 cities and towns in the United States and West Indies.

The extensive cement plant where "Dragon" brand is made is situated in the Lehigh Valley. The company controls about 200 acres of land containing an inexhaustible supply of the best cement rock in the country. The present managers (The Lawrence Cement Company, 1 Broadway, New York) have the benefit of the experience of more than fifty years in the manufacture of cements.

KEROSENE ENGINES.

AN EXTREMELY simple engine to run with ordinary kerosene oil, or with the possible substitution of gas fuel, has been placed upon the market by Mietz & Weiss, of 128 Mott Street, New York. This engine will run with about one pound of oil per horse-power per hour, the amount being automatically regulated by a governor according to the power used, thus maintaining a uniform speed. Heretofore one of the chief causes of trouble in the operation of internal combustion engines has been the failure of the igniter to perform its proper function. The Mietz & Weiss engine has automatic ignition, doing away with the often troublesome electric spark or hot tube. This engine, it is claimed, can be started in a few minutes and needs little attention besides the ordinary oiling and general oversight.



THATCHER FURNACE CO., 240 WATER STREET. NEW YORK.

THIS firm has for fifty-two years been manufacturers of high-grade heating apparatus: Furnaces, Ranges, Steam and Hot Water Boilers. The popularity of the Thatcher "Tubular" Furnace is thoroughly established, and constantly increasing, particularly with architects and the trade who desire reliable appliances. There are other furnaces made by this company to meet the demand for various grades, and to fill special needs. Though lower in price than the "Tubular" each furnace is the best that can be made for the money. The "Thatcher" Steam and Hot Water Heaters are also made in a wide range of styles and sizes, and are being used extensively for all classes of low pressure heating. The preference given them by the best engineers, is attributed to their large and accurately proportioned heating surface, which assures great economy, and efficiency in operation. Any one in need of a range should see the "Thatcher" line of single and double oven ranges to appreciate their artistic design and finish. In addition to this they are fitted with every good labor-saving device that can be desired. The popularity of the "Thatcher" goods is shown forcibly by the enlargement and improvement from time to time, of their foundry at Newark, N. J., where they have every facility for turning out the highest quality of goods in large quantities, skilled workmanship, the best material, and the constant supervision of the manufacturers, bringing about these gratifying results. The continued patronage of their clients is also the best evidence that the efforts of this company to produce the highest class of heating apparatus is appreciated. Separate catalogues of the different lines are issued by the company, also a handsomely bound edition incorporating the entire line, has been specially prepared for architects. Any of these will be sent upon request.

AMERICAN ENCAUSTIC TILING CO., LTD.

THERE is situated at No. 244 West 23d Street, in the City of New York, a studio which we feel sure it will pay every architect to visit. We are referring to the Art Ceramic Mosaic Studio of the American Encaustic Tiling Co., Ltd. This concern, the biggest and oldest tile factory in the country, has undertaken and succeeded in producing an article which they put on the market in competition with Marble Mosaic. Their range of colors (over 600 in number) is marvelous, and the work they turn out must be seen in order to be appreciated. Absolutely perfect color schemes are produced which in their variety are almost without number, and the material is such that it will withstand the most severe usage, besides being absolutely non-absorbent and unaffected by atmospheric influences, attributes which will be appreciated by the architects.

WEBSTER SYSTEM OF STEAM CIRCULATION.

ARCHITECTS and engineers will do well to investigate the Webster System of Steam Circulation for heating buildings of any magnitude. It is introduced by Messrs. Warren Webster & Co., of Camden, N. J. Each installation is planned with reference to the conditions presented.

It has been installed with the greatest success in some of the largest office buildings, hotels, factories, and department stores in the United States. The Bowling Green Building of New York, the Hotel Touraine of Boston, the Carnegie Building of Pittsburg, the Elgin National Watch Company's factory at Elgin, Ill., the Pennsylvania State Capitol at Harrisburg, the Palmer House of Chicago, and the large factory of the Singer Sewing Machine Company, at South Bend, Ind., are among the hundreds of large buildings heated by this system.

They not only guarantee a notable saving in coal on the cost of installation, but offer the additional advantage that, through the system heat can be sent equally to the most remote corner of the building, and that the heat can be regulated by the tenants and occupants very simply and easily. Neither is there any of that hammering noise that is so often heard in radiators, nor any back pressure upon the engine furnishing the exhaust steam supply.

The system is also installed in the new Ansonia Apartments in New York, and is to be used in the Macy Department Store. The King Edward Hotel of Toronto, Canada, which is to be one of the most magnificent in the world, is also to be equipped with this wonderful System.

Messrs. Warren Webster & Company ask no favors but introduce the system upon absolute guarantee and proof.

ASBESTOS MANUFACTURING COMPANY.

WITH the departure of the lately constructed Russian Battleship "Retvizan," built by the Wm. Cramp & Sons Ship & Engine Building Co., went forward to the world a splendid testimonial of America's wonderful genius and commercial supremacy.

The superior construction of this huge greyhound that now polices the seas and thunders in the name of the great Czar and Peace, deserves well the admiration of its constructors and all those who contribute to the improvements which make possible these great watch-dogs that guard the mandates of Law and Order.

Among the more potent factors on which the real greatness of these achievements rest—are the superior mechanism of its engines and economy of fuel. This economy is manifested by the proper insulation of the steam pipes and boilers with a high-class non-conducting covering, such as applied by the Asbestos Manufacturing Co., 426 Market St., Philadelphia, Pa. By the use of their covering, the Imperial Battleship "Retvizan" and Cruiser "Variag," both built by Cramp, were enabled to deliver the greatest amount of energy possible. The trial trips of these vessels demonstrated the importance of proper insulation of steam surfaces, and gave such evidence of the high quality of the Asbestos Manufacturing Co.'s products as to endorse their exclusive use in the insulation of all steam surfaces on the new steamships "Kroonland" and "Finland," which are now being constructed by Cramp for the International Navigation Co.

The Asbestos Manufacturing Co. have also secured the contract for the installing of their covering on the Standard Oil Co.'s whaleback tank steamship "City of Everett," which is to ply the Atlantic Ocean carrying oil in bulk. This marine work along with the abundant stationary and power plant contracts, such as the new power plant for the Philadelphia & Reading Ry. Co., at Reading, Pa., manifest the excellent endorsements which their material and workmanship always receive.

THE OTIS ELEVATOR.

THE Otis Elevator Company announces the closing of three large contracts within the past week for Otis Standard Hydraulic Elevator plants in large office buildings, covering a total of 24 installations as follows:

The twenty-four-story office building being erected for the Farmers' Deposit National Bank, Pittsburg, Messrs. Alden & Harlow, architects, and the George A. Fuller Company, contractors, will be equipped with ten high-speed hydraulic passenger elevators and several small elevators for freight and special service.

The twenty-story office building being erected for the Corn Exchange National Bank, at 15-19 William St., New York City, Messrs. Robertson & Potter, architects, and John Downey, contractor, will be equipped with nine high-speed hydraulic passenger elevators.

The twenty-story office building being erected by Messrs. Kuhn, Loeb & Company, at 54 William St., New York City, Mr. James B. Baker, architect, and the Thompson-Starrett Company, contractors, will be equipped with five high-speed hydraulic passenger elevators.

The Otis Company also announces the recent closing of contracts for more than fifty electric passenger elevators in New York City and vicinity, forty-five of which will be installed in New York City proper.

Further recent contracts cover installations for elevators to be installed in Yokohama, Japan; Melbourne, Australia, and Buenos Ayres, South America.

ZINC WHITE.

THE New Jersey Zinc Co., New York, has recently done a very effective bit of practical advertising to demonstrate the superiority of Zinc White as a paint. Early in the year every architect in the United States received a small sky-blue board, of which one end had been painted with a tint of Prussian blue and Zinc White, and the other with a corresponding tint of Prussian blue and white lead.

The back of this board bore the following label:

"The end of this board lettered 'L' is painted with a tint made of strictly pure, old Dutch process white lead and Prussian blue. The end marked 'Z' is painted with a corresponding tint, made with American process Zinc White and Prussian blue. The liquid used for grinding in both cases was pure, raw linseed oil. Both ends were painted at the same time, with the same number of coats, thus making the test absolutely fair. Note: 1st. The greater purity of tint on the zinc end; 2nd. The superior gloss of the zinc end; 3rd. Hang this board out in the weather, exposed to direct sunlight, and after a few weeks examine it again; continue this weather test for a year, and the result will convince you that pure tints, lasting tints and durable paint can be obtained only by the liberal use of Zinc White."

It is an interesting and instructive experiment for any one interested in paint, and can easily be duplicated by any painter. It is worth doing.

SOUND DEADENING.

IN ARCHITECTURAL acoustics the problem of conveying sound has loomed so large that the problem of confining it within its own sphere of usefulness has been neglected until now, when the skeleton construction of modern architecture has forced the latter forward until it occupies a more important position, practically considered, than the former.

A most interesting and satisfactory inquiry into the question was recently made in Boston, by the architects and directors of the New England Conservatory of Music. Five test rooms were built, using five different methods of construction for the partitions, and the one which gave the most perfectly satisfactory result was a partition only 2″ thick, made of metal stud, two layers of Cabot's Asbestos Deadening Quilt, and metal lath and plaster. All of the other partitions were 3″ to 6″ thick, and much heavier and more expensive. The result was so conclusive that the Quilt was adopted for lining all the partitions of the Conservatory and the Conservatory Chambers (the latter being the rooms of the students, and each one a studio) as well as for the floors. The tests were made in the presence of the architect of the Conservatory, Mr. Edmund Wheelwright, and the Directors, and the decision was unanimous.

The importance of this result cannot be overlooked. A 2″ partition that is sound-proof means a great saving of space in city buildings, where floor space is valuable, and this partition also saves immensely in weight of construction, as well as in first cost, as compared with ordinary methods; and the 2″ partition is entirely fire-proof.

DIXON'S SILICA-GRAPHITE PAINT.

THE ability of the American engineer to design steel structures of great strength and pleasing architectural effect, is shown in the eight half-tones on the handsome souvenir mailing-card issued by the Joseph Dixon Crucible Company, of Jersey City, N. J. The card is a piece of artistic advertising on the part of the company, and will prove of decided interest to constructing engineers and architects, to whom it will be sent on request.

Dixon's Silica-Graphite Paint, which protects these structures from corrosion, has been very extensively used in the south, west and sea-coast sections of the United States, also in Mexico, Australia, China, Japan, West Indies and Philippine Islands, and has proven its protective and wearing qualities in all climates.

FAIRBANKS' VALVES.

WE ARE in receipt of a notice announcing the removal of The Fairbanks Company from 311 Broadway, where it has been located for the past 30 years, to the corner of Elm and Broome Streets, embracing numbers 186 and 188 Elm Street and 416, 418, 420 and 422 Broome Street, to provide facilities necessary to meet the requirements of its greatly increased business, enabling them to concentrate the various departments and warehouses under one roof.

The company also has branch houses in Albany, Baltimore, Boston, Buffalo, Philadelphia, Pittsburg, New Orleans, Montreal, Canada, and London, England (all carrying a complete stock of goods) and agencies in all the principal cities of the United States and Europe.

Their line of Renewable Valves, Globe and Radiator, with vulcanized asbestos disc, the gates with the same kind of seat, the straightway swing checks, the asbestos packed cock, which is the only reliable blow-off, and other specialties, are known throughout the world.

ISAAC A. HOPPER & SON (INC.)

AT THE beginning of the current year this active firm of builders removed their main office from Harlem to the Mohawk Building, cor. 21st Street and Fifth Avenue. Here they have taken a commodious suite fully adequate and in keeping with their large and ever increasing business. The firm is now an incorporated company, although the personnel of its staff remains practically the same as before.

Mr. Isaac A. Hopper is the president of the new company, and now, as in the past, their continued success depends largely upon his long experience and conscientious business methods, as well as upon his great personal popularity in the business and in public life.

Among the important contracts that Isaac A. Hopper & Son have completed during the past year may be mentioned, the new United States Custom House Foundations, the Roman Catholic Orphan Asylum at Fordham Heights, and the Home for the Friendless, 162nd Street and Jerome Avenue. They are now erecting the following buildings: Carnegie Library Building, East 79th Street, James Brown Lord, architect; Speyer Banking House, Pine Street, De Lemos & Cordes, architects; Metropolitan Street Railway Power House at Kingsbridge; St. Vincent's Retreat Buildings, Harrison, N. Y., Schickel & Ditmars, architects; residence for De Lancy Nicoll, East 39th Street, James Brown Lord, architect; Pumping Station Power House, Mamaroneck, New York.

The serious investor in New York real estate and in new building operations, realizes more and more every day that a firm like Isaac A. Hopper & Son, with their long established reputation and high record in the building world, produces results that invariably show a permanent security and return on the money invested. Every dollar paid to them has its equivalent in actual labor and material furnished, and in addition the work is given a supervision that is only possible when backed by the widest and most extensive experience such as this firm possesses. The outlook for this company for the coming year is a most brilliant one and we wish them continued prosperity and success.

"BENEDICT-NICKEL" SEAMLESS TUBING.

ONE of the troubles commonly experienced by architects, plumbers, builders, and others concerned with the specifying or installing of high-class exposed plumbing, is the tendency of nickel-plating to wear away from brass tubing. The only sure way to keep the plating intact is to refrain from rubbing or polishing it; but as the tubing *must* be rubbed to keep it clean, it is only natural that the plating should soon wear away, exposing the brass underneath.

Many attempts have been made to manufacture a better tubing than nickel-plated brass, with indifferent success, until the Benedict & Burnham Mfg. Co., of Waterbury, Conn., introduced "Benedict-Nickel." This tubing is "white metal clear through," and with an occasional wiping remains silvery white forever. It can never be rubbed "brassy," for there is no brass to be exposed. When the nickel-plating begins to wear from brass tubing, the unsightliness of the plumbing increases in proportion to the amount of rubbing it gets; but the appearance of "Benedict-Nickel" is enhanced by rubbing. Its brightness and newness are easily maintained with an *occasional* polishing.

"Benedict-Nickel" Seamless Tubing is the most highly non-corrosive tubing made—it does not deteriorate even after years of exposure. To illustrate its highly non-corrosive qualities, it is only necessary to say that it is extensively used for condensers in warships and other craft, because it has been found, by repeated tests, to resist electrolysis, perhaps the most destructive form of corrosion known.

The Benedict & Burnham Mfg. Co., Waterbury, Conn., publish a book with detailed description of "Benedict-Nickel," and all who are interested in high-class exposed plumbing, or in highly non-corrosive tubing for other purposes, are advised to write for it. It contains complete and well arranged tables and will prove a valuable reference book to any architect.

METAL INTERIORS.

THE prevailing high prices of wood for interior finish have, in a measure, increased the demand for metal ceilings. The demand for metal interior finish for churches and other large buildings has been phenomenal during the last two years. This has been brought about by steady improvements in the construction of sheet metal as an interior finish.

Metal ceilings are suitable for churches, schools and colleges, hospitals, armories, auditoriums, hotels, restaurants, cafes, banks, offices, lodge-rooms, etc., as well as for residence buildings. They are applicable to old plaster or wood, hence can be introduced both in old and new structures. They are easy to handle and apply. They are safe. Their weight is but a fraction of that of plaster; thus the strain on the trusses is greatly reduced. There is no danger of their loosening or dropping off. They protect the wood-work and greatly retard the spread of flames, and for this reason they are heartily endorsed by underwriters. They are thoroughly sanitary. The joints are dust-proof. The ceiling is non-absorbent, easily cleaned, and easily kept clean. They are desirable and permanent. They are not injured by water. They are economical. Their moderate first cost and superior lasting qualities make them the most economical ceilings in existence. They are highly decorative and ornamental. This is especially true of Berger's "Classik" Designs.

The Berger Mfg. Co., 210 East 23d Street, New York City, are distributing a daintily printed booklet entitled "Why Metal Ceilings," and containing valuable information, that they will gladly mail to all such interested and contemplating improving the interior appearance of their rooms.

PARAGON METAL WEATHER STRIPS.

THIS strip, owned and controlled by the Noiseless & Draughtless Door & Window Cushion Co., of 5 East 42nd St., New York, although a recent invention is now in use in the following buildings: New York Life Building, Hoffman House, Manhattan Hotel, Studio Building, Racquet & Tennis Club, New York Central & Hudson River Ry. Co., Leonori Apartment Hotel, Journal Building, Tower Building, Manhattan Eye & Ear Hospital. Residences: Mr. M. Morgenthau, D. M. Harris, Mrs. E. W. Bliss, Dyer Pearl, H. G. Dimock, J. Hansen Rhoades, Jr., Mrs. L. Fleischman, E. D. Adams, J. C. Umberfield, B. Mordecai, L. Wasserman, and many others.

Call at the above office or telephone 5101-38th Street and they will send one of their representatives to see you. This company guarantees to make casement windows water-tight, wind and dust proof. Also have a cushion for doors that stops all slamming and draughts.

THE BOLLES SASH—F. C. KOHART, MANAGER.

THE Bolles Sliding and Reversible Sash have been installed recently in the following buildings: Hospital, Gowanda, N. Y., 1,200 sash; Lafayette High School, Buffalo, N. Y., 890 sash; public schools, Greater New York, 2,300 sash; City Hall, Denver, 200 sash; dry goods building, Denver, 250 sash; office building, Minneapolis, 350 windows; two police stations, New York, 180 windows; loft building, San Francisco, 260 windows.

The factory is engaged on numerous large orders amounting to over 3,000 sash, and the New York office and headquarters at 13 Park Row finds a ready market for a thoroughly reliable safety window.

A VISIT to the factory of the F. J. Newcomb Mfg. Co., 42-50 West 13th St., indicates a rapidly growing business. While they do both plaster and ornamental work, they make a specialty of a high-grade composition work, ornamental door and window trims, mirror frames, consoles, tables, cornices, screens, pedestals, etc. Some very interesting designs of Adams, Louis XVI and Colonial Mantels, as well as the other articles mentioned were seen, and a visit to their conveniently arranged modeling shop and show rooms, in which there are many thousands of models to select from, (the accumulation of the past sixty years), would well repay anyone interested in this class of work.

WATER FILTRATION.

THE filters manufactured by the New York Continental Jewell Filtration Co. are the acknowledged standard of mechanical filtration. The company reports an active business and refer to a representative list of prominent buildings in which their gravity and pressure filters are installed: The Waldorf-Astoria, Hotel Majestic, Sherry's, New York Yacht Club, New York Stock Exchange, "Ardsley Hall," Hotel Navarre, The Martinique, Hotel Essex, Mutual Life Ins. Co., Union League Club, Empire Building, Roman Catholic Orphan Asylum, New York Produce Exchange, University Club, Washington Life Ins. Co., Prudential Ins. Co. (Newark).

AMERICAN ENAMELED BRICK AND TILE CO.

CALL attention to the fact that we have not only stopped the importation of Enameled Brick from England since our organization in '93 and opening of business in '94, but that in 1902 we are sending American made enameled brick to English colonies, viz., Montreal, Canada, for the Bank of Montreal, in addition to other jobs already done in that city. Also to Johannesburg, South Africa, and to other countries such as South America, to which continent we have just shipped 10,000 bricks in one consignment.

In stopping the English goods we have offered the goods for sale at far below the English price, thus not profiting in any way by the protective tariff and winning the trade sales on the merit of our goods and quick delivery.

We hold goods on storage ready for immediate delivery of small orders. From 5,000 to 10,000 in New York, Brooklyn, Boston, Pittsburg, Cleveland, Cincinnati and Montreal.

PRINCE & KINKEL IRON WORKS.

THE Prince & Kinkel Iron Works, with shops at 553-555-557 West 33rd Street, have anticipated the demand for structural steel from stock for prompt delivery, which is being caused by the slowness of shipments from the mills, and are now carrying a large stock of all sizes of beams and channels.

At the present time there is practically a "steel famine" and no guarantee can be given for the prompt furnishing of structural material unless it is actually in stock ready for fabrication when the order is given. The Prince & Kinkel Iron Works are making a specialty of bidding on this basis for any buildings for which they have sufficient structural materials in the yards. An estimate so given is a positive guarantee of prompt delivery. They carry beams from 3″ to 24″, channels from 3″ to 15″, and angles from 1″ to 6″ in several sections.

Architects requiring estimates on *guaranteed* time delivery would do well to communicate with the Prince & Kinkel Iron Works before placing their contracts.

PERFECT LOCK JOINT COLUMNS.

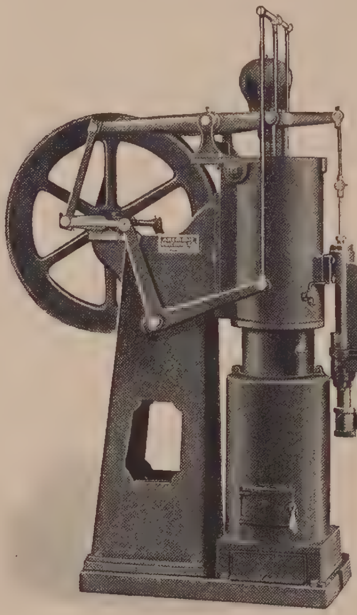
THE present popular style of architecture calling for both interior and exterior columns of various dimensions has created a remarkable demand for appurtenances of this character.

This popularity is in part due to the fact that with modern methods of construction columns of even the colossal order are produced at a comparatively low cost. The Hartmann Bros. Mfg. Co., of Mount Vernon, N. Y., were the first to recognize this demand and promptly presented their now justly celebrated "Koll's Patent" lock joint staved column to the trade.

The construction of one of these columns, from the getting out of the rough staves which form the shaft, through the shaping machine, through the assembling, gluing and turning departments, and through the finishing department, until it comes out, graceful in appearance and constructed so firmly that it will never come apart, is an interesting process. Columns thirty feet long and thirty-six inches in diameter are now made and turned by the company; they have made it possible to vary the shape of the stave so as to give the shaft any taper or swell desired, thereby maintaining approximately the same thickness of stock throughout its length after being turned to detail.

THE IMPROVED HOT AIR PUMPING ENGINES.

THE principle of obtaining power from the compression and expansion of air has become so well established and has been used for practical purposes so long, it is not necessary to explain or trace its history. This power has been used for many years for the purpose of pumping water, and its application in this direction has been so successful that the demand for the Hot Air Pumping Engines, as manufactured by the American Machine Company, of Wilmington, Del., is constantly increasing.



The Denney Improved Rider and Ericsson Hot Air Pumping Engines, as built by them, are used for pumping water for city and country residences, apartment houses, flats, hotels, colleges, public and private buildings, factories, seaside resorts, bath houses, brickyards, quarries, turpentine distilleries, greenhouses, truck gardens, cemeteries, fruit groves, stock farms, race tracks, railroad tanks, irrigation and drainage, and street sprinkling, and, in fact, wherever water is desired, either for comfort or from necessity.

The Denney Improved Ericsson Engine is of modern design: the cranks, links, etc., are all double, one being provided for each side. The bearings are not subjected to any side or twisting strains; the whole machine is mounted on a cast-iron base plate, making a most rigid construction, and a machine that operates very smoothly, uniformally and noiselessly. The parts requiring adjustment are readily accessible, and can be detached without disturbing the other parts of the engine.

Any of our readers contemplating an independent water supply for any purpose whatever will do well to write, asking for the general catalogue and discounts.

THE STANLEY WORKS.

THE Stanley Works, New Britain, Conn., and No. 79 Chambers St., New York, report a large and rapidly increasing demand for their Ball Bearing Butt Hinges.

They make these now in both wrought steel and wrought bronze and finish them in a great variety of finishes to correspond with the rest of the hardware in a building. The ease with which these hinges allow the door to swing, and the fact that they are noiseless in operation and never wear down, make them adapted to the heavy doors of all kinds of public buildings; and the fact that two of them will hang a door that would require three hinges without ball bearings, makes it practicable to use them in private houses, which is being done to a large extent.

ROLLING STEEL SHUTTER WORKS.

HAVING purchased of Clark, Bunnett & Co., Limited, their entire stock, machinery and plant, including all patterns and models, for the manufacture and sale of Clark's Original Noiseless Shutters, Clark's Rolling, Self-coiling Steel Shutters, all kinds of Gear Shutters, Fire and Burglar-proof Shutters, etc., we are now prepared to furnish the same and fill all orders therefor, and to do any and all kinds of repairing at the old stand.

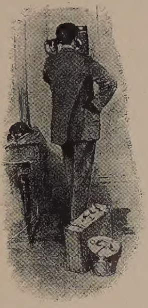
The great popularity which the original Clark's Shutters have secured at home and abroad is sufficient proof in the very fact that all other kinds of shutters constructed of iron laths of various shapes, flat, rectilinear, curvilinear, etc., with hinges and without, were forced out of the market entirely. 162 and 164 West 27th Street, New York City.

IMITATIONS OF MARBLE.

AS COLORED marbles began to be used for decorative purposes, human ingenuity taxed itself to find substitutes for or imitations of them.

More than a century ago the Italians developed a clever way of imitating some marbles in plaster of paris and calling the product "Scagliola," and although this method is rarely used now, the newer method being altogether better, the name is applied generally to all artificial marble. Prior to 1883 little improvement on the old method had been made: England had issued a patent to Thomas Ellison in 1852, to E. J. Bridell in 1862, to George Davey in 1872, and to Richard Guelton in 1882. But it was not until the United States issued a patent in 1883, it being the first patent comprehensive enough to enable one skilled in the art to produce a creditable imitation of the natural stone, that any real advance was made.

This patent became the property of the Mycenian Marble Company, the first to engage in the manufacture of cement marbles, and the product became known as "Mycenian Marble," the name being the trade-mark of the company. So exact are many of the imitations that even those most familiar with the natural stone are deceived by them and the ordinary observer does not suspect that they are not the product of the quarry.



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JOHN W. RAPP.

JOHN W. RAPP has on exhibition at his offices, 311–327 East 94th St., New York City, a sample line of Doors and Windows of the well-known Kalamein covered wood type.

These Doors and Windows are made in a great variety of forms, to suit every requirement, and in several styles of finish, such as electroplate, imitation wood, etc.

The Rapp factory at 94th St. is the largest establishment in the world turning out Kalamein and metal covered work, its products including Elevator Doors (sliding, swinging and combination), Room Doors, Dumbwaiter Doors, elaborate Entrance and Vestibule Doors, every form of Window Sash and Frames, Mouldings and Partitions.

The Rapp Complete System of Fireproof Construction also includes the manufacture and installation of Fireproof Floor Arches, which are being used in a large number of the best buildings being erected in New York and throughout the country. This System of Floor Construction, which is made in several types, has been recommended and endorsed by many prominent Architects and Builders.

ART OF LIGHTING.

THE lighting of a fine painting is in itself a work of art, and requires to be thoroughly understood or it cannot be successfully accomplished. The picture should be covered with a thoroughly diffused, brilliant light, but there should be no glare from the direct light in the eyes to obscure the vision, nor spots or shadows on the picture space to detract from its beauty. Any one interested in the ideal lighting of a painting or group of paintings, a private or public gallery should investigate the system of picture lighting in use in a very large number of the finest galleries in the country. I. P. Frink, 551 Pearl St., New York, has made a careful study for years of the science of lighting, and more particularly, picture lighting, which is a distinct branch of the business, and requires expert work to make a success. Mr. Frink can accomplish anything in picture or gallery lighting, the lighting of painted ceilings or handsomely decorated interiors by a series of concealed lights, cove and arch lighting, etc.

PERSPECTIVE CHARTS.

A LONG felt want has been satisfactorily met by Mr. G. Curtis Gillespie, in the production of his perspective charts, for they really accomplish the desired end in that he has produced a chart, accompanied by a transparent diagram to place over the plan, which readily permits any object or point in the plan, to be immediately ascertained in the perspective chart itself.

With the plans and elevations of an object, it is as easy to make the perspective, as a plan or an elevation. By the use of these charts, elevations may be readily executed as a study in accurate perspective, and then reproduced in elevation after desired effects are ascertained.

The charts are large enough for all practical work; are five in number, comprising interior angular, bird's-eye view, parallel and two for external angular perspective; are drawn uniformly to scale, and all lines are so indexed as to leave nothing to be desired, but tracing paper, pencil, and an idea. Address G. Curtis Gillespie, 7 Warren Street, New York.

"DUREX FLOOR STONE."

THERE is every good reason to believe that the "Durex Floor Stone" (see ad.) will become quickly popular as a substitute for the more expensive tile. This article, although new in this country, has been manufactured in Europe for more than a quarter of a century and its consumption has increased each year. The American Fireproofing and Cement Construction Co. have started the manufacture in the United States and their product is even superior to that produced in Europe. Very effective color designs can be obtained and the lasting qualities of this floor stone have been established, beyond doubt, by long practice and experience. There is a particular kind of "Durex" with embossed surface which is especially desirable for porch floors, stables, barns, sidewalks and outdoor work.

METAL BOOKSTACKS.

THE Snead & Co. Iron Works, of Jersey City, N. J., are now installing their system of Metal Bookstacks and Shelving in the following libraries: Library of Congress, Washington, D. C.; Public Library, Washington, D. C.; Memorial Library, Ridgefield, Conn.; Public Library, Canton, Mass.; Public Library, Fall River, Mass.; Parliamentary Library, Wellington, N. Z. It is the standard. Send for illustrated catalogue. This company also manufactures all classes of structural and ornamental iron and bronze work.

DRAWING INK.

THE $30,000,000 deed of gift of Mrs. Jane L. Stafford to the University of California was engrossed on pig-skin with Higgins' Waterproof Drawing Ink. For this important document the Higgins Ink was selected as best adapted for the purpose. It writes black from the pen point and the writing lasts forever unchanged.

The manufacturers have never solicited a single testimonial, yet the merits of the inks have called forth endorsements from the most famous and experienced users of Drawing Inks in various professions, real masters of their arts. The Higgins product is the standard of the world, and may be obtained from all stationers and dealers in artists' materials.

SAFETY TREAD.

THE Universal Safety Tread Co. at 45 Broadway, New York, has furnished tread for many important public buildings recently constructed in New York and elsewhere. Among them are the Broadway Exchange Building, building corner Maiden Lane and Broadway, 65th Precinct Police Station, New York; Manual Training School, Washington, D. C.; New Power House, Philadelphia, and many others.

As an example of its use for repairing old buildings, the First National Bank, Jersey City, Postal Telegraph Building, and Sweetser, Pembrook & Co., store on Broadway, New York, are good examples. Wherever a person is likely to slip, the use of the Universal tread will prevent such slipping; and it is rapidly becoming a necessity for all public buildings, stores and hotels. It is so constructed as to furnish a non-slipping surface until it is worn out, a feature possessed by no other tread.

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SASH CHAINS.

THE pure Roman bronze Sash Chain sold under the brand of "Monarch" and made by The Bridgeport Chain Company, Bridgeport, Ct., is generally specified by the leading architects. The simplicity of the Sash Chain Fastener as supplied with Monarch Chain naturally pleases the builder, as it means a material saving of time in hanging sash, and accordingly these fasteners are being supplied to nearly all the building hardware dealers of the country, and for use with chain other than the "Monarch."

BUTCHER'S BOSTON POLISH.

THE Butcher Polish Company, Boston, call attention to their celebrated polish for floors, linoleums, interior woodwork and furniture. It is regarded as the best floor finish made and has not a single objectionable feature. It is not brittle, will neither scratch nor deface like shellac or varnish and is not soft and sticky like beeswax. It is perfectly transparent, preserving the natural color and beauty of the wood for years.

The method of applying it is so simple that any one can understand it, and it is without doubt the most economical and satisfactory polish known for hard-wood floors.

THE FITCH SASH LOCK.

NO ITEM in the list of Hardware necessary for the proper trimming of any building is of more importance than that of Sash Locks. This is particularly true in residence work where security is an essential. In the list of Locks at present more or less popular the "Fitch" Sash Lock is most in favor, for none other so fully meets the requirements. The manufacturers, The W. & E. T. Fitch Co., New Haven, Conn., would welcome inquiries from any who may not be fully acquainted with the merits of the "Fitch" Sash Lock.

THAT EASY MOVEMENT.

QUIET and ease is what we seek in the home. The best people, those that know, are using either the Bommer Spring Hinge or the Bommer Ball Bearing Floor Hinge. They work noiselessly. Bommer Spring Hinges have become famous for that easy movement. They do their work calmly; no afterclaps, and their appearance is elegant and the finish perfect. "Practically Unbreakable," says the World's Fair award, Chicago, 1893. Gold Medal awarded, International Exposition, Paris, 1900. Gold Medal awarded, Pan-American Exposition, 1901. Your hardware dealer can furnish Bommer Spring Hinges. Bommer Brothers, Manufacturers, 257 to 271 Classon Avenue, Brooklyn, N. Y.

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Wood treated by our process is not hardened nor made brittle as other fireproof wood. Our process is indorsed by the leading architects of New York as being the most perfect fireproof wood obtainable. ❧ ❧ ❧ ❧

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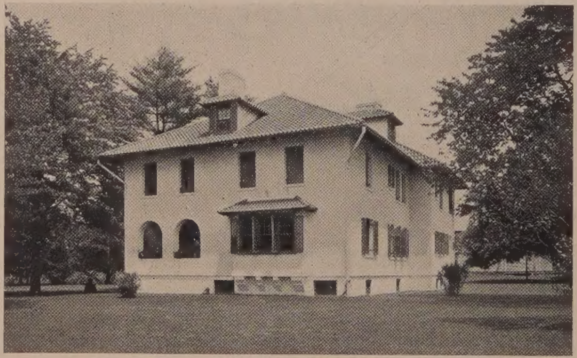

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